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CALCULATIONS FOR

An Almanac for the Year of our Lord 1856, being Bissextile, and (until the 4th of July,) the 80th year of American Independence. Adapted to the Horizon and Meridian of New York. — By Samuel H. Wright, Dundee, Yates Co., N. Y.

CHRONOLOGICAL CYCLES AND MOVEABLE FEASTS.

Dominical Letters, - - - - -	F. E.	Easter Sunday, - - - - -	March 23.
Golden Number, or Lunar Cycle, - - - - -	14	Rogation Sunday, - - - - -	April 27.
Epact, (Moon's age,) January 1st, - - - - -	23	Ascension Day, - - - - -	May 1.
Solar Cycle, - - - - -	17	Whitsunday, (Pentecost,) - - - - -	May 11.
Roman Indiction, - - - - -	14	Trinity Sunday, - - - - -	May 18.
Julian Period, - - - - -	6569	Advent Sunday, - - - - -	Nov. 30.

EQUINOXES AND SOLSTICES.

			D.	H.	M.
Vernal Equinox, - - - - -	March	20	5	17	M.
Summer Solstice, - - - - -	June	21	2	6	M.
Autumnal Equinox, - - - - -	Sept.	22	4	21	E.
Winter Solstice, - - - - -	Dec.	21	10	7	M.

CUSTOMARY NOTES.

VENUS will be Morning Star until July 19th, then Evening Star until May 10th, 1857. MARS will be Morning Star until April 1st, then Evening Star until June 7th, 1857. JUPITER will be Evening Star until March 5th, then Morning Star until September 26th, then Evening Star until April 11th, 1857. SATURN will be Evening Star until June 24th, then Morning Star until December 31st, then Evening Star until July 10th, 1857.

The MOON will run lowest this year on October 6th, to the 3d degree of Sagittarius, having a declination of 28° 36' 1.2" south. It will run highest on the 18th of October, to the 3d degree of Gemini, having a declination of 28° 35' 32.2" north. This declination is about a *maximum*, by which the Moon can run much further north and south than the SUN ever can by about 5° 8' 48". The longitude of the Moon's Ascending Node, June 1st, 30° 11.1' and on the 31st of December it will be 10° 51.4'. Apparent obliquity of the ecliptic July 9th, 23° 27' 36.11".

The SUN will be north of the Equator this tropical year, dating from the Solstice of December, 1855, 186 days, 11 hours, 4 minutes; and south of it, 178 days, 18 hours, 47 minutes; showing a difference of 7 days, 16 hours, 17 minutes; which is caused by the slower motion of the Earth when near its aphelion in July.

Distance of the EARTH from the SUN, July 2d, 96,702,364 miles; its mean distance March 31st, and October 2d, 96,103,000 miles.

MARS will move from east to west past stars in the sky, from February 24th, to May 14th, a distance of about 18°. JUPITER will move in the same manner from July 29th, to November 24th, a distance of 9°. SATURN moves in the same direction until February 23d, and from October 26th, to the end of the year. Venus moves directly, or from west to east, all the year.

The planet JUPITER will be Eclipsed by the MOON on the 19th of August, visible. It disappears at 1 o'clock and 5 minutes, in the Morning, at Washington, and reappears at 1 hour and 59 minutes.

ECLIPSES IN THE YEAR 1856.

There will be two Eclipses of the SUN, and two of the MOON this year, the latter being visible.

I. A Total Eclipse of the SUN, April 5th, invisible.

II. A Partial Eclipse of the MOON, April 20th, in the Morning, visible.

Magnitude 8.544 digits, or over two-thirds of the MOON, on the northern limb. See the following table.

III. An Annular Eclipse of the SUN, September 28th. Invisible in the United States.

IV. A Partial Eclipse of the Moon, October 13th, in the Evening, Visible. Magnitude, 11.976 digits (nearly total) on the southern limb. See the table.

NOTE.—The beginning of the Eclipse of October 13th, occurs before the Moon rises in the United States, hence that body will rise with the Eclipse upon it. The time of rising will be about 5 o'clock 17 minutes, and the size of Eclipse $3\frac{1}{2}$ digits in most of the States.

PRINCIPAL PLACES.	ECLIPSE OF APRIL 20TH.—MORNING.			ECLIPSE OF OCTOBER 13TH.	
	Begins.	Middle.	Ends.	Middle.	Ends.
Boston.....	2 50	4 22	5 55	6 10	7 44
Providence.....	2 49	4 21	5 54	6 9	7 43
Newport.....	2 49	4 21	5 54	6 9	7 43
Hartford.....	2 44	4 16	5 49	6 4	7 38
New Haven.....	2 42	4 12	5 45	6 2	7 36
Troy.....	2 40	4 10	5 43	6 0	7 34
New York.....	2 38	4 8	5 41	5 58	7 32
Newburgh.....	2 38	4 8	5 41	5 58	7 32
Philadelphia.....	2 34	4 4	5 39	5 54	7 28
Utica.....	2 34	4 4	5 39	5 54	7 28
Auburn.....	2 28	4 0	5 33	5 48	7 22
Rochester.....	2 23	3 55	5 28	5 43	7 17
Buffalo.....	2 19	3 51	5 24	5 39	7 13

TIDE TABLE.

The Tides given in the Calendar pages are for the Port of New York.

In the last column but one of the Calendar pages, you have the time the Moon is South, and by adding thereto the hours and minutes in the following table, you will have the time of High Water at all the places named below; also the rise of water in feet.

	h.	m.	ft.		h.	m.	ft.		h.	m.	ft.
Albany, N. Y.	3	30	1	Egg Harbor, Gt.	9	34	5	Montauk Point,	7	33	
Amboy, N. J.,	8	15	5	Egg Harbor, Litt.	10	3	5	Mount Desert,	11	2	25
Baltimore,	1	38	3	Elizabeth Point,	8	57	5	Nantucket,	12	0	11
Bay of Fundy,	12	00	60	Fairfield, Conn.,	10	58	6	Narrows, N. Y.,	8	2	6
Blue Hill Bay,	11	00	12	Guildford, Conn.,	10	28	5	New Bedford,	7	39	6
Boston,	11	30	11	Halifax, N. S.,	7	30	9	New Haven,	10	17	5
Bridgeport, Ct.,	10	54	5	Hampton, N. H.,	11	15	12	New London,	8	56	8
Brunswick, N. J.,	9	5	5	Hampton Roads,	8	37	5	Newport,	7	51	
Campo Bello,	11	00	25	Hartford, Conn.,	9	25		NEW YORK,	8	56	6
Cape Ann,	11	30	11	Hell Gate,	9	35	6	Norwalk, Conn.,	10	54	
Cape Cod,	11	30	6	Huntington, L. I.,	11	30	6	Norwich,	10	56	
Cape Fear,	8	1	5	Islip, L. I.,	8	6	6	Philadelphia,	2	0	
Cape Hatteras,	9	1	5	Jamaica Bay,	8	0	5	Portland,	10	45	13
Cape Henlopen,	5	45	5	Kennebunk, Me.,	11	15	10	Portsmouth, N. H.,	11	15	10
Cape Henry,	7	51	6	Kingston, N. Y.,	2	30	2	Providence,	8	25	5
Castine, Me.,	11	00	12	Lubec,	11	30	26	Sag Harbor,	9	52	
Charleston,	7	15	5	Marblehead,	11	30	10	Sandy Hook,	6	37	5
Eastport, Me.,	11	30	25	Martha's Vineyard,	7	37		St. John's,	12	00	30

The time of High Water here found, is nearly accurate on the days of the New and Full Moon. In the First and Third Quarters, it is too late, at most, 1 hour and 9 minutes. In the Second and Fourth Quarters, it is too early, at most, 24 minutes.

The actual rise of the Tides depends on the strength and direction of the Wind, and it not unfrequently happens that a Tide which would, independently of these, have been small, is higher than another, otherwise much greater. But when a Tide which arrives when the Sun and Moon are in a favorable position for producing a great elevation, is still further increased by a very strong wind, the rise of the water will be uncommonly great, sufficient, perhaps, to cause damage.

1. JANUARY. Begins on Tuesday, has 31 days. 1856.

Moon's Phases.

	D.	H.	M.	
New Moon,	7	6	21	E.
First Quarter,	14	10	47	M.
Full Moon,	21	10	33	E.
Last Quarter,	30	3	39	M.

PROB. 1.—Required the largest number of hills of corn that can be planted upon a *square* acre, the centres of the hills not being nearer each other than $3\frac{1}{2}$ feet.

PROB. 2.—A father wills \$16,000, \$12,000, and \$8,000, to his three children. But it is found his estate is worth only \$20,000. How much must each share be?

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	☉ Sun rises. H. M.	☉ Sun sets. H. M.	☉ Sun's dec.S. °	☾ Moon's place.	☾ Moon rises. H. M.	☾ Moon south. H. M.	High water. H. M.
1	Tue	Circumcision. <i>Cold.</i>	7 26	4 34	23 2	♏	0 49	6 38	2 45
2	Wed	☾ south 10 52.	7 26	4 34	22 57	♏	1 50	7 20	3 49
3	Thu	☾ so. 8 52. <i>Snow.</i>	7 25	4 35	22 52	♏	2 54	8 6	4 50
4	Fri	☾ near ☉. <i>Pre-</i>	7 25	4 35	22 46	♏	4 3	8 56	5 53
5	Sat	En. & U.S. Treas. '84.	7 24	4 36	22 39	♏	5 15	9 51	6 57
6	F	☉ lowest. <i>paring to</i>	7 24	4 36	22 31	♏	6 24	10 51	7 50
7	Mon	Dayb'k. 5 46. <i>thaw.</i>	7 23	4 37	22 25	♏	sets.	11 54	8 40
8	Tue	B. N. Orleans 1815.	7 23	4 37	22 17	♏	5 37	ev. 56	9 26
9	Wed	Saturn south 10 22.	7 22	4 38	22 9	♏	6 55	1 57	10 13
10	Thu	☉ perigee. <i>Colder.</i>	7 21	4 39	22 1	♏	8 14	2 53	10 58
11	Fri	Dr Dwight d. 1817.	7 21	4 39	21 51	♏	9 30	3 45	11 46
12	Sat	Maximi. I. di. 1519.	7 20	4 40	21 42	♏	10 45	4 35	morn.
13	F	Daybreak 5 46.	7 19	4 41	21 32	♏	11 55	5 22	0 31
14	Mon	Bruce d. 1611. <i>Snow</i>	7 19	4 41	21 22	♏	morn.	6 10	1 18
15	Tue	☾ south 9 57. <i>or</i>	7 18	4 42	21 11	♏	1 7	6 59	2 7
16	Wed	☾ ☉. <i>rain.</i>	7 17	4 43	20 59	♏	2 17	7 50	3 0
17	Thu	B. Franklin b. 1706.	7 16	4 44	20 48	♏	3 27	8 43	4 4
18	Fri	☾ near ☉. <i>Cloudy.</i>	7 16	4 44	20 36	♏	4 35	9 38	5 15
19	Sat	Daybreak 5 45.	7 15	4 45	20 24	♏	5 38	10 34	6 33
20	F	☉ enters ♊. <i>Snow,</i>	7 14	4 46	20 11	♏	6 35	11 29	7 39
21	Mon	<i>wind and rain.</i>	7 13	4 47	19 53	♏	rises.	morn.	8 33
22	Tue	☾ south 9 27 $\frac{1}{2}$.	7 13	4 48	19 45	♏	5 35	0 21	9 20
23	Wed	Wm. Pitt di. 1806.	7 11	4 49	19 31	♏	6 37	1 9	10 2
24	Thu	Daybreak 5 42.	7 10	4 50	19 17	♏	7 37	1 54	10 38
25	Fri	Conver. St. Paul.	7 9	4 51	19 2	♏	8 37	2 36	11 11
26	Sat	Moon in apogee.	7 8	4 52	18 47	♏	9 36	3 16	11 42
27	F	Sexagesima. <i>High</i>	7 7	4 53	18 32	♏	10 29	3 55	ev. 13
28	Mon	☉ near ☉. <i>winds.</i>	7 6	4 54	18 16	♏	11 34	4 34	0 45
29	Tue	☾ so. 8 58. <i>Snow.</i>	7 5	4 55	18 0	♏	morn.	5 14	1 19
30	Wed	Venus south 9 17.	7 4	4 56	17 44	♏	0 37	5 57	1 56
31	Thu	☾ in ♊. <i>Thaws.</i>	7 3	4 57	17 28	♏	1 44	6 44	2 36

2. FEBRUARY. Begins on Friday, has 29 days. 1856.

Moon's Phases.

	D.	H.	M.	
New Moon,	6	5	40	M.
First Quarter,	12	9	16	E.
Full Moon,	20	4	44	E.
Last Quarter,	28	8	45	E.

PROB. 3.—An India-rubber ball falls from a height of 12 feet, and bounds back 6 feet. At every fall it bounds back half the distance it just fell. How many bounds will it make, what distance will it have moved, and what time will be consumed, when it comes to a state of rest?

PROB. 4.—A. and B. are in a circular room 20 feet in diameter, A. being at the centre and B. at the circumference. B.

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	☉ Sun rises.		☿ Sun sets.		♊ Sun's dec. S.		☾ Moon's place.	☾ Moon rises.		☾ Moon south.		High water.	
			H.	M.	H.	M.	°	'		H.	M.	H.	M.	H.	M.
1	Fri	Daybr'k 5 37. <i>Fair</i>	7	24	58	17	11	♊	2	51	7	35	3	34	
2	Sat	Loren. Dow d. 1834.	7	14	59	16	54	♊	4	2	8	32	4	50	
3	F	Quinquagesima. and	7	05	0	16	36	♋	5	9	9	33	6	12	
4	Mon	☉ low. <i>pleasant.</i>	6	58	5	2	16	♋	6	7	10	35	7	28	
5	Tue	♀ farthest south.	6	57	5	3	16	♋	sets.	11	38	8	25		
6	Wed	Ash Wednesday.	6	56	5	4	15	♋	5	48	ev.	37	9	16	
7	Thu	Neptune ♂ ☉. <i>Snow</i>	6	55	5	5	15	♋	7	8	1	33	10	'3	
8	Fri	Daybreak 5 31. <i>or</i>	6	54	5	6	15	♋	8	30	2	25	10	47	
9	Sat	<i>perhaps rain.</i>	6	53	5	7	14	♋	9	40	3	16	11	29	
10	F	1st Sunday in Lent.	6	51	5	9	14	♋	10	53	4	5	morn.		
11	Mon	Venus south 9 31.	6	50	5	10	14	♋	morn.	4	55	0	11		
12	Tue	<i>Fixing to thaw.</i>	6	49	5	11	13	♋	0	6	5	46	0	55	
13	Wed	D. Young di. 1852.	6	48	5	12	13	♋	1	18	6	39	1	35	
14	Thu	Valentine. <i>Windy.</i>	6	46	5	14	13	♋	2	28	7	34	2	20	
15	Fri	Daybreak 5 25.	6	45	5	15	12	♋	3	34	8	30	3	17	
16	Sat	☉ highest. <i>Colder.</i>	6	44	5	16	12	♋	4	32	9	24	4	39	
17	F	2d Sunday in Lent.	6	43	5	17	12	♋	5	21	10	16	6	9	
18	Mon	Luther died 1546.	6	41	5	19	11	♋	6	1	11	5	7	33	
19	Tue	Daybreak 5 18.	6	40	5	20	11	♋	6	36	11	51	8	29	
20	Wed	☉ near Regulus.	6	39	5	21	11	♋	rises.	morn.	9	9			
21	Thu	☉ in apogee. <i>Snow</i>	6	37	5	23	10	♋	6	29	0	34	9	45	
22	Fri	Washington b. 1732.	6	36	5	24	10	♋	7	28	1	14	10	20	
23	Sat	J. Q. Adams d. 1848.	6	35	5	25	9	♋	8	27	1	53	10	47	
24	F	St. Matthias. <i>or</i>	6	33	5	27	9	♋	9	27	2	32	11	16	
25	Mon	Daybreak 5 10.	6	32	5	28	9	♋	10	27	3	12	11	45	
26	Tue	♀ sou. 5 49. <i>rain.</i>	5	31	5	29	8	♋	11	31	3	53	ev.	13	
27	Wed	Elias Hicks d. 1830.	6	30	5	30	8	♋	morn.	4	38	0	42		
28	Thu	Cyane capt'd. 1815.	6	28	5	32	8	♋	0	38	5	26	1	13	
29	Fri	♀ stationary. <i>Fair.</i>	6	27	5	33	7	♋	1	45	6	19	1	52	

runs around the outside of the room, at the rate of 500 feet per minute, and A. pursues him at the rate of 100 feet a minute. How long before they meet, and how far will each travel?

3. MARCH.

Begins on Saturday, has 31 days.

1856.

Moon's Phases.

	D.	H.	M.	
New Moon,	6	3	43	E.
First Quarter,	13	9	40	M.
Full Moon,	22	11	9	M.
Last Quarter,	29	9	36	M.

PROB. 5.—A purchase of \$15,000 worth of goods, is to be paid for in three equal payments, without interest; the first in 4 months, the second in 6 months, and the last in 9 months. Money being worth 7 per cent, how much ready money ought to pay the debt?

PROB. 6.—A. B. and C. agree to do a piece of work for \$26,45. A. and B. do 3-4ths of it, A. and C. do 9-10ths, and B. and C. do 13-20ths. What ought each to have?

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	Sun rises. H. M.	Sun sets. H. M.	Sun's dec.S. °	Moon's place.	Moon rises. H. M.	Moon south. H. M.	High water. H. M.
1 Sat		St. David. <i>Cold</i>	6 25	5 35	7 19	♄	2 51	7 16	2 42
2 E		Daybreak 5 4.	6 24	5 36	6 56	♄	3 46	8 10	4 2
3 Mon		♀ in ☿. and bluster-	6 23	5 37	6 33	♄	4 44	9 17	5 38
4 Tue		♂ ♀. ♂ ♀. <i>ing.</i>	6 21	5 39	6 10	♄	5 29	10 17	7 12
5 Wed		J. Madison b. 1751.	6 20	5 40	5 46	♄	6 6	11 15	8 10
6 Thu		♂ in perigee. <i>Snow.</i>	6 19	5 41	5 23	♄	sets.	ev.	9 9 0
7 Fri		Revo. Warsaw 1794.	6 17	5 43	5 0	♄	7 15	1 2	9 44
8 Sat		Dayb'k. 4 54. <i>Fair</i>	6 16	5 44	4 36	♄	8 31	1 53	10 25
9 E		5th Sunday in Lent.	6 15	5 45	4 13	♄	9 46	2 44	11 5
10 Mon		♂ ♀. <i>and mild.</i>	6 13	5 47	3 49	♄	11 2	3 37	11 48
11 Tue		Saturn south 6 12.	6 12	5 48	3 26	♄	morn.	4 32	morn.
12 Wed		Venus south 10 4.	6 11	5 49	3 2	♄	0 16	5 28	0 26
13 Thu		<i>Windy and rain.</i>	6 9	5 51	2 38	♄	1 25	6 24	1 5
14 Fri		Daybreak 4 44.	6 8	5 52	2 15	♄	2 27	7 20	1 52
15 Sat		Bat. Guilford 1781.	6 6	5 54	1 51	♄	3 21	8 13	2 46
16 E		Palm Sunday. <i>Cold.</i>	6 5	5 55	1 27	♄	4 3	9 3	4 14
17 Mon		♂ near Regulus.	6 4	5 56	1 4	♄	4 39	9 49	5 51
18 Tue		<i>Rain or snow.</i>	6 2	5 58	0 40	♄	5 8	10 33	7 16
19 Wed		Daybreak 4 34.	6 1	5 59	S. 16	♄	5 33	11 14	8 10
20 Thu		♂ enters ♄. <i>Thaw.</i>	6 0	6 0	N. 7	♄	5 55	11 53	8 49
21 Fri		Good Friday. ♂ apog.	5 58	6 2	0 31	♄	6 15	morn.	9 21
22 Sat		Moon ♂ Mars.	5 57	6 3	0 55	♄	rises.	0 32	9 50
23 E		Easter Sunday.	5 56	6 4	1 18	♄	8 20	1 11	10 18
24 Mon		Q. Elizabeth d. 1603.	5 54	6 6	1 42	♄	9 23	1 52	10 45
25 Tue		Daybr'k 4 23. <i>Wet,</i>	5 53	6 7	2 6	♄	10 29	2 35	11 12
26 Wed		♀ so. 10 16. <i>windy,</i>	5 52	6 8	2 29	♄	11 34	3 22	11 41
27 Thu		Opium dest'd. 1839.	5 50	6 10	2 52	♄	morn.	4 13	ev. 9
28 Fri		Pallas discov. 1802.	5 49	6 11	3 16	♄	0 40	5 7	0 43
29 Sat		♂ lowest. and rough	5 48	6 12	3 39	♄	1 42	6 5	1 25
30 E		1st Sun. aft. Easter.	5 46	6 14	4 2	♄	2 37	7 4	2 19
31 Mon		♀ s. 10 19. <i>weather.</i>	5 45	6 15	4 26	♄	3 21	8 2	3 42

4. APRIL.

Begins on Tuesday, has 30 days.

1856.

Moon's Phases.

	D.	H.	M.	
New Moon,	5	0	57	M.
First Quarter,	11	11	56	E.
Full Moon,	20	4	18	M.
Last Quarter,	27	6	31	E.

PROB. 7.—The greatest diameter of an octagon is 18, required its inscribed square.

PROB. 8.—Required the largest 8-sided figure that can be inscribed in a square, whose side is 20 inches.

PROB. 9.—How many trees can be planted in a circular garden, 10 rods in diameter, they not being within 10 feet of each other, nor within $2\frac{1}{2}$ feet of the fence?

PROB. 10.—If the diameter of the earth be 8,000 miles, and a hole perforated through it

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	Sun rises. H. M.	Sun sets. H. M.	Sun's dec. N. °	Moon's place.	Moon rises. H. M.	Moon south. H. M.	High water. H. M.
1	Tue	Daybreak 4 11.	5 43	6 17	4 49	V3	4 9	8 59	5 22
2	Wed	Jefferson bo. 1743.	5 42	6 18	5 12	W	4 31	9 53	6 51
3	Thu	♂ ♀ and ♀. Fair	5 41	6 19	5 35	W	4 50	10 45	7 49
4	Fri	♂ in perigee. and	5 40	6 20	5 58	X	sets.	11 37	8 36
5	Sat	♀ so. 10 22. mild.	5 38	6 22	6 20	X	7 19	ev. 29	9 15
6	E	♀ in Aph. Begins	5 37	6 23	6 43	Y	8 36	1 22	9 57
7	Mon	Daybreak 3 59. to	5 36	6 24	7 6	Y	9 53	2 17	10 39
8	Tue	look like Spring.	5 34	6 26	7 28	Y	11 6	3 14	11 18
9	Wed	Peace with Eng. '84.	5 33	6 27	7 50	Y	morn.	4 13	11 58
10	Thu	♂ highest. Perhaps	5 32	6 28	8 12	Y	0 30	5 11	morn.
11	Fri	♀ so. 10 26. <i>with snow.</i>	5 30	6 30	8 34	Y	1 14	6 7	0 41
12	Sat	H. Clay born 1777.	5 29	6 31	8 56	Y	2 12	6 59	1 27
13	E	Daybreak 3 47.	5 28	6 32	9 18	Y	2 40	7 47	2 27
14	Mon	♂ near Regulus.	5 26	6 34	9 40	Y	3 13	8 31	3 51
15	Tue	♀ so. 10 28. <i>Rain.</i>	5 25	6 35	10 1	Y	3 38	9 13	5 22
16	Wed	♂ in apogee. <i>with</i>	5 24	6 36	10 22	Y	4 1	9 52	6 40
17	Thu	B. Franklin d. 1790.	5 23	6 37	10 43	Y	4 20	10 31	7 34
18	Fri	Moon near ♂. hail	5 21	6 39	11 4	Y	4 40	11 10	8 12
19	Sat	Daybr'k 3 38. and	5 20	6 40	11 25	Y	rises.	11 51	8 40
20	E	4th Sun. aft. Easter.	5 19	6 41	11 45	Y	7 15	morn.	9 13
21	Mon	Byron d. 1824. wind.	5 18	6 42	12 6	Y	8 20	0 34	9 43
22	Tue	Venus so. 10 32. or	5 16	6 44	12 26	Y	9 26	1 20	10 12
23	Wed	♂ s. 10 14. perhaps a	5 15	6 45	12 46	Y	10 34	2 9	10 42
24	Thu	Josi. Quincy d. 1775.	5 14	6 46	13 5	Y	11 36	3 3	11 13
25	Fri	Daybr'k 3 26. storm.	5 13	6 47	13 25	Y	morn.	3 59	11 48
26	Sat	Gen. Pike shot 1813.	5 12	6 48	13 44	Y	0 32	4 57	ev. 20
27	E	Rogation Sunday.	5 10	6 50	14 3	V3	1 18	5 54	1 12
28	Mon	J. Monroe bo. 1758.	5 9	6 51	14 22	V3	1 58	6 50	2 12
29	Tue	♂ so. 9 45. Windy.	5 8	6 52	14 41	W	2 31	7 43	3 35
30	Wed	♂ near Nept. Fair.	5 7	6 53	14 59	W	2 58	8 34	5 5

centrally, how long would a ball be in reaching the centre, if it be placed within said hole, which is supposed to be a vacuum, and what velocity will it acquire at that point?

5. MAY.

Begins on Thursday, has 31 days.

1856.

Moon's Phases.

	D.	H.	M.
New Moon,	4	9	46 M.
First Quarter, 11	3	49	E.
Full Moon, 19	7	1	E.
Last Quarter, 27	0	38	M.

PROB. 11.—Given $\chi^6y^3-\chi^{12}=9728$: and $\chi^2y^5+\chi^8y^2=40320$ to find χ and y . Who will do it?

PROB. 12.—If a two inch auger be bored centrally through a sign post of three equal sides, each of which is 1 foot, how many surface and solid inches will be cut out?

PROB. 13.—If a two-inch auger be bored centrally through the side of a round post four feet long and two inches in diameter,

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	☉ Sun rises.	☉ Sun sets.	☉ Sun's dec.N.	☾ Moon's place.	☾ Moon rises.	☾ Moon south.	High water.	
			H. M.	H. M.	°		H. M.	H. M.	H. M.	
1	Thu	St. Philip & James.	5	6 6	54	15 17	☾	3 23	9 24	6 22
2	Fri	☉ in perigee. <i>Cool</i>	5	5 6	55	15 35	☾	3 50	10 14	7 18
3	Sat	♂ & ♀. <i>for the</i>	5	3 6	57	15 53	☿	4 16	11 6	8 4
4	E	6th Sun. aft. Easter.	5	2 6	58	16 10	☿	sets.	12 0	8 48
5	Mon	☉ near ♀. <i>season.</i>	5	1 6	59	16 27	☿	8 42	ev. 57	9 33
6	Tue	Bat. Prague 1757.	5	0 7	0	16 44	☿	9 54	1 56	10 15
7	Wed	Daybk 2 34. <i>Rain</i>	4	59	7	1 17	☿	10 59	2 56	10 56
8	Thu	☉ high'st. <i>and wind.</i>	4	58	7	2 17	☿	11 53	3 54	11 36
9	Fri	♂ so. 9 1. <i>Fair</i>	4	57	7	3 17	☿	morn.	4 50	morn.
10	Sat	Riot in N. Y. 1849.	4	56	7	4 17	☿	0 37	5 40	0 23
11	E	Pentecost. <i>and</i>	4	55	7	5 18	☿	1 14	6 27	1 11
12	Mon	☉ east of Regulus.	4	54	7	6 18	☿	1 41	7 10	2 7
13	Tue	Daybk 2 54. <i>warm.</i>	4	53	7	7 18	☿	2 5	7 50	3 15
14	Wed	☉ apogee. <i>Growing</i>	4	52	7	8 18	☿	2 26	8 29	4 34
15	Thu	Puebla capt'd. 1847.	4	51	7	9 19	☿	2 44	9 8	5 43
16	Fri	♂ so. 8 33. <i>weather.</i>	4	50	7	10 19	☿	3 4	9 48	6 40
17	Sat	John Jay d. 1829.	4	49	7	11 19	☿	3 24	10 30	7 25
18	E	Trinity Sunday.	4	48	7	12 19	☿	3 47	11 15	8 1
19	Mon	Daybreak 2 45.	4	47	7	13 19	☿	rises.	morn.	8 38
20	Tue	☉ enters ♄. <i>Look</i>	4	47	7	13 20	☿	8 23	0 4	9 12
21	Wed	St. Helena 1762.	4	46	7	14 20	☿	9 30	0 57	9 46
22	Thu	Moon lowest. <i>for a</i>	4	45	7	15 20	☿	10 28	1 54	10 21
23	Fri	J. Randolph d. 1833	4	44	7	16 20	☿	11 19	2 52	10 56
24	Sat	Copernicus, d. 1543.	4	43	7	17 20	☿	11 59	3 50	11 37
25	E	Daybreak 2 36.	4	43	7	17 21	☿	morn.	4 46	ev. 21
26	Mon	Joh. Calvin d. 1564.	4	42	7	18 21	☿	0 33	5 39	1 12
27	Tue	♀ near ♄. <i>drought.</i>	4	41	7	19 21	☿	1 1	6 29	2 11
28	Wed	N. Webster d. 1843.	4	40	7	20 21	☿	1 28	7 18	3 22
29	Thu	Cap. Mexico 1847.	4	40	7	20 21	☿	1 51	8 6	4 38
30	Fri	Moon in perigee.	4	39	7	21 21	☿	2 17	8 56	5 42
31	Sat	<i>Dry and dusty.</i>	4	39	7	21 22	☿	2 45	9 47	6 41

Moon's Phases.

	D.	H.	M.	
New Moon,	2	6	44	E.
First Quarter,	10	8	54	M.
Full Moon,	18	6	56	M.
Last Quarter,	25	5	22	M.

how many surface and solid inches will be cut out?

PROB. 14.—A rope 100 feet long, is fastened to two fixed points in a horizontal line, they being 80 feet apart. How much will the rope sag?

PROB. 15.—If 4 men saw 15 cords of oak in the same time 5 men saw 14 cords of hickory; and if 3 men saw 18 cords of

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	Sun rises. H. M.	Sun sets. H. M.	Sun's dec.N. °	Moon's place.	Moon rises. H. M.	Moon south. H. M.	High water. H. M.
1	E	2d Sun. aft. Trinity.	4 38	7 22	22 9	☾	3 15	10 41	7 34
2	Mon	Daybr'k 2 29. <i>Fair</i>	4 37	7 23	22 17	☾	sets.	11 39	8 27
3	Tue	Trans. of ♀. <i>and cool</i>	4 37	7 23	22 24	☾	8 41	ev. 39	9 14
4	Wed	☉ highest. <i>showers.</i>	4 36	7 24	22 31	☿	9 41	1 39	10 0
5	Thu	♀ in ☿. <i>Cloudy.</i>	4 36	7 24	22 38	☿	10 32	2 37	10 44
6	Fri	Gen. Gaines d. 1849.	4 36	7 24	22 44	☿	11 10	3 31	11 27
7	Sat	Daybreak 2 25.	4 35	7 25	22 50	☿	11 41	4 20	morn.
8	E	Jackson d. 1845.	4 35	7 25	22 55	☿	morn.	5 5	0 10
9	Mon	♄ farthest N. <i>Fair.</i>	4 35	7 25	23 0	☿	0 7	5 46	0 57
10	Tue	Riot in Boston, 1768	4 34	7 26	23 5	☿	0 28	6 26	1 44
11	Wed	☉ in apog. <i>Pleasant.</i>	4 34	7 26	23 9	☿	0 50	7 5	2 33
12	Thu	Neptune 90° fr'm ☉.	4 34	7 26	23 12	☿	1 9	7 44	3 32
13	Fri	Daybreak 2 23.	4 33	7 27	23 16	☿	1 28	8 25	4 35
14	Sat	Bat. Marengo 1800.	4 33	7 27	23 19	☿	1 50	9 9	5 30
15	E	J. K. Polk di. 1849.	4 33	7 27	23 21	☿	2 14	9 56	6 26
16	Mon	♄ & ♀. <i>Showers.</i>	4 33	7 27	23 23	☿	2 43	10 48	7 16
17	Tue	Bunker's Hill 1775.	4 32	7 28	23 25	☿	rises.	11 44	8 0
18	Wed	Moon lowest. <i>Clear.</i>	4 32	7 28	23 26	☿	8 20	morn.	8 43
19	Thu	Daybreak 2 22.	4 32	7 28	23 27	☿	9 14	0 43	9 24
20	Fri	Burgoyne's proc. '77.	4 32	7 28	23 28	☿	9 58	1 43	10 5
21	Sat	Madison di. 1836.	4 32	7 28	23 28	☿	10 35	2 40	10 47
22	E	5th Sun. aft. Trinity.	4 32	7 28	23 27	☿	11 4	3 35	11 31
23	Mon	Neptune stationary.	4 32	7 28	23 26	☿	11 21	4 27	ev. 17
24	Tue	St. John Bap. <i>Hot</i>	4 32	7 28	23 25	☿	11 56	5 16	1 7
25	Wed	Daybreak 2 23. <i>and</i>	4 33	7 27	23 24	☿	morn.	6 4	2 1
26	Thu	Cromwell pro. 1657.	4 33	7 27	23 21	☿	0 20	6 52	3 1
27	Fri	Cholera N. Y. 1832.	4 33	7 27	23 19	☿	0 46	7 41	4 5
28	Sat	B. Monmouth 1778.	4 33	7 27	23 16	☿	1 15	8 33	5 5
29	E	H. Clay d. 1852. <i>dry.</i>	4 33	7 27	23 13	☿	1 51	9 28	6 11
30	Mon	☉ highest. <i>Showery.</i>	4 33	7 27	23 9	☿	2 32	10 26	7 14

hickory in 3 days, at 12 hours a day, how many hours a day must 7 men work to saw 90 cords of oak in six days?

7. JULY.

Begins on Tuesday, has 31 days.

1856.

Moon's Phases.

	D.	H.	M.	
New Moon,	2	4	35	M.
First Quarter,	10	2	26	M.
Full Moon,	17	4	35	E.
Last Quarter,	24	10	6	M.
New Moon,	31	4	13	E.

PROB. 16.—The sides of a hexagon are 12, what is the side of the largest inscribed square?

PROB. 17.—A cubical cistern is 20 feet square, and 20 feet deep, and full of water. How large a circular orifice at the bottom will empty it in an hour?

PROB. 18.—In what time will the amount of \$1 at 6 per cent compound interest, equal

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	☉ Sun rises. H. M.	☉ Sun sets. H. M.	☉ Sun's dec.N. °	☾ Moon's place.	☾ Moon sets. H. M.	☾ Moon south. H. M.	High water. H. M.
1	Tue	Daybreak 2 26.	4 34	7 26	23 5	☾	sets.	11 26	8 12
2	Wed	☿ station. <i>Dry and</i>	4 34	7 26	23 1	☾	8 21	ev. 24	9 5
3	Thu	Cap. Ft. Erie 1814.	4 35	7 25	22 56	☾	9 5	1 20	9 52
4	Fri	Independence. <i>hot.</i>	4 35	7 25	22 51	☾	9 39	2 11	10 37
5	Sat	B. Chippewa 1814.	4 35	7 25	22 45	☾	10 8	2 58	11 16
6	E	7th Sun. aft. Trinity.	4 36	7 24	22 39	☾	10 31	3 41	11 53
7	Mon	Daybr'k 2 32. <i>Rainy</i>	4 36	7 24	22 32	☾	10 52	4 22	morn.
8	Tue	Burke d. 1797. <i>and</i>	4 37	7 23	22 25	☾	11 12	5 1	0 31
9	Wed	☿ in apogee. <i>cool.</i>	4 37	7 23	22 18	☾	11 31	5 40	1 9
10	Thu	☿ near Mars. <i>Hot.</i>	4 38	7 22	22 11	☾	11 52	6 20	1 50
11	Fri	Hamilton shot 1804.	4 38	7 22	22 3	☾	morn.	7 2	2 32
12	Sat	Mars 90° E. of Sun.	4 39	7 21	21 54	☾	0 14	7 47	3 22
13	E	Daybreak 2 39.	4 40	7 20	21 45	☾	0 42	8 37	4 21
14	Mon	<i>Cloudy and rain.</i>	4 40	7 20	21 36	☾	1 16	9 31	5 23
15	Tue	☿ lowest. <i>Windy.</i>	4 41	7 19	21 27	☾	1 58	10 29	6 30
16	Wed	B. Stony Point '79.	4 42	7 18	21 17	☾	2 53	11 29	7 9
17	Thu	Bat. Warsaw 1815.	4 42	7 18	21 7	☾	rises.	morn.	8 21
18	Fri	☿ near ♄. <i>Warm.</i>	4 43	7 17	20 56	☾	8 33	0 29	9 11
19	Sat	Daybreak 2 46.	4 44	7 16	20 45	☾	9 5	1 27	9 56
20	E	9th Sun. aft. Trinity.	4 45	7 15	20 34	☾	9 33	2 21	10 39
21	Mon	☿ in perigee. <i>Rain.</i>	4 45	7 15	20 22	☾	9 59	3 12	11 22
22	Tue	☿ enters ♄. <i>Hot.</i>	4 46	7 14	20 10	☾	10 24	4 1	ev. 6
23	Wed	Bagdad sack'd 1401	4 47	7 13	19 58	☾	10 48	4 49	0 52
24	Thu	Bat. Niagara, 1768.	4 48	7 12	19 45	☾	11 17	5 38	1 38
25	Fri	Daybreak 2 54.	4 49	7 11	19 32	☾	11 50	6 29	2 28
26	Sat	Coleridge di. 1834.	4 50	7 10	19 19	☾	morn.	7 23	3 24
27	E	☿ in perihe. <i>Very hot</i>	4 51	7 9	19 5	☾	0 27	8 19	4 34
28	Mon	☿ highest. <i>and dry.</i>	4 52	7 8	18 51	☾	1 17	9 17	5 50
29	Tue	Jupiter stationary.	4 52	7 8	18 37	☾	2 12	10 15	7 8
30	Wed	Moon ☿ Mercury.	4 53	7 7	18 23	☾	3 14	11 11	8 10
31	Thu	<i>Thunder Shower.</i>	4 54	7 6	18 8	☾	sets.	ev. 3	9 2

8. AUGUST.

Begins on Friday, has 31 days.

1856.

Moon's Phases.

	D.	H.	M.
First Quarter,	8	7	26 E.
Full Moon,	16	0	59 M.
Last Quarter,	22	4	12 E.
New Moon,	30	6	18 M.

that of \$2 at 6 per cent simple interest, both being reckoned from Jan. 1, 1854.

PROB. 19.—How many globes, each 2 inches in diameter, can be placed upon a globe 2 feet in diameter?

PROB. 20.—The diameter of a conical tree is 4 feet; its height is 90 feet. If a squirrel runs spirally 45 times around it in going up, how far will he travel?

PROB. 21.—How many days in the 1853

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	☉ Sun rises. H. M.	☿ Sun sets. H. M.	♊ Sun's dec.N. °	☾ Moon's place	☾ Moon sets. H. M.	☾ Moon south. H. M.	High water. H. M.
1	Fri	Daybreak 3 4. <i>Hot</i>	4 55	7 5	17 53	☾	8 9	0 52	9 46
2	Sat	Mehem. Ali d. 1849.	4 56	7 4	17 37	☾	8 34	1 36	10 23
3	E	11th Sun. aft. Trin.	4 57	7 3	17 21	☾	8 55	2 18	10 57
4	Mon	Burgoyne d. 1792.	4 59	7 1	17 5	☾	9 16	2 58	11 29
5	Tue	☉ in apo. <i>and dry.</i>	5 07	0 16	49	☾	9 35	3 37	11 59
6	Wed	Bat. Hanging Rock '80.	5 16	59 16	33	☾	9 55	4 16	morn.
7	Thu	Daybreak 3 14.	5 26	58 16	16	☾	10 16	4 56	0 32
8	Fri	Q. Caroline d. 1821.	5 36	57 15	59	☾	10 40	5 40	1 5
9	Sat	<i>Look for some</i>	5 46	56 15	41	☾	11 11	6 27	1 39
10	E	St. Lawrence.	5 56	55 15	24	☾	11 49	7 18	2 20
11	Mon	Barbadoes des. 1831.	5 66	54 15	6	☾	morn.	8 14	3 11
12	Tue	Moon lowest. <i>rain.</i>	5 76	53 14	48	☾	0 37	9 12	4 26
13	Wed	Daybreak 3 23.	5 86	52 14	29	☾	1 37	10 13	5 48
14	Thu	T. Sheridan d. 1788.	5 106	50 14	11	☾	2 47	11 12	7 8
15	Fri	Ft. Erie taken 1814.	5 116	49 13	52	☾	rises.	morn.	8 7
16	Sat	♀ near ♀ <i>Thunder</i>	5 126	48 13	33	☾	7 35	0 8	8 57
17	E	☿ 90° W. of Sun.	5 136	47 13	14	☾	8 0	1 2	9 40
18	Mon	☉ in perig. <i>showers.</i>	5 146	46 12	55	☾	8 26	1 53	10 23
19	Tue	Daybreak 3 32.	5 166	44 12	35	☾	8 51	2 43	11 3
20	Wed	Atlantic sunk 1852.	5 176	43 12	15	☾	9 20	3 33	11 45
21	Thu	A. Clarke d. 1832.	5 186	42 11	55	☾	9 50	4 25	ev. 27
22	Fri	☉ enters ♊. <i>Clear</i>	5 196	41 11	35	☾	10 29	5 18	1 10
23	Sat	C. Washington b't. 1814.	5 216	39 11	14	☾	11 13	6 14	1 55
24	E	St. Bartholomew.	5 226	38 10	54	☾	morn.	7 12	2 50
25	Mon	Daybr'k 3 40. <i>and</i>	5 236	37 10	33	☾	0 6	8 10	4 7
26	Tue	Lou. Philipp d. 1850	5 246	36 10	12	☾	1 5	9 6	5 38
27	Wed	Bat. Long Island, '76	5 266	34 9	51	☾	2 9	9 59	7 6
28	Thu	Jas. Wilson d. 1798.	5 276	33 9	30	☾	3 15	10 48	8 4
29	Fri	St. John beheaded.	5 286	32 9	8	☾	4 18	11 33	8 51
30	Sat	Dr. Webster h. 1850.	5 296	31 8	47	☾	sets.	ev. 16	9 29
31	E	☉ near Venus. <i>hot.</i>	5 316	29 8	25	☾	7 21	0 56	10 2

9. SEPTEMBER. Begins on Monday, has 30 days. 1856.

Moon's Phases.

	D.	H.	M.
First Quarter,	7	11	1 M.
Full Moon,	14	9	13 M.
Last Quarter,	21	0	53 M.
New Moon,	28	10	52 E.

years ending Dec. 31st, 1853, according to the *Gregorian* Calendar?

PROB. 22.—With what velocity per-second must a ball be projected vertically that it may never return to the earth, the radius of the latter being 7912 miles?

PROB. 23.—Required the diameter of three, of four, and of five, the largest circles that can be inscribed in a circle six feet in diameter.

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	Sun rises. H. M.	Sun sets. H. M.	Sun's dec.N. °	Moon's place.	Moon rises. H. M.	Moon south. H. M.	High water. H. M.
1 Mon		Dayb'k 3 49. <i>Fair</i>	5 32	6 28	8 3	☾	7 40	1 35	10 32
2 Tue		☉ in apogee. <i>and</i>	5 33	6 27	7 41	☾	7 58	2 14	10 59
3 Wed		Treaty Peace 1783.	5 34	6 26	7 19	☾	8 22	2 53	11 28
4 Thu		♀ so. 0 47. <i>very</i>	5 36	6 24	6 57	☾	8 43	3 35	11 55
5 Fri		Moon near Mars.	5 37	6 23	6 35	☾	9 10	4 20	morn.
6 Sat		Reindeer exp. 1852.	5 38	6 22	6 12	☾	9 43	5 9	0 25
7 E		16th Sun. aft. Trin.	5 40	6 20	5 50	☾	10 26	6 1	0 56
8 Mon		Dayb'k. 3 56. <i>warm.</i>	5 41	6 19	5 27	☾	11 19	6 57	1 34
9 Tue		☉ lowest. <i>Cloudy</i>	5 42	6 18	5 5	☾	morn.	7 56	2 24
10 Wed		Dog Days End. <i>and</i>	5 44	6 16	4 42	☾	0 24	8 54	3 45
11 Thu		♀ in Aphelion. <i>cool</i>	5 45	6 15	4 19	☾	1 36	9 51	5 19
12 Fri		Baltimore bom. 1814	5 46	6 14	3 57	☾	2 54	10 46	6 48
13 Sat		Dayb'k 4 3. <i>sultry</i>	5 48	6 12	3 33	☾	rises.	11 39	7 47
14 E		☉ ne'r Nep. <i>weather.</i>	5 49	6 11	3 10	☾	6 26	morn.	8 37
15 Mon		☉ in perigee. <i>Look</i>	5 50	6 10	2 47	☾	6 51	0 31	9 18
16 Tue		Venus south 0 54.	5 52	6 8	2 24	☾	7 19	1 22	9 58
17 Wed		Cornwallis sur. 1781.	5 53	6 7	2 0	☾	7 49	2 15	10 38
18 Thu		☉ ♂ ♄. <i>out for a</i>	5 54	6 6	1 37	☾	8 25	3 9	11 19
19 Fri		Daybreak 4 10.	5 56	6 4	1 14	☾	9 9	4 6	11 57
20 Sat		☉ highest. <i>thunder</i>	5 57	6 3	0 51	☾	10 0	5 5	ev. 40
21 E		St. Matthew. <i>storm.</i>	5 58	6 2	0 27	☾	10 59	6 4	1 25
22 Mon		Moon ♂ Saturn.	6 0	6 0	0 4	☾	morn.	7 2	2 25
23 Tue		Arnold's trea. 1780.	6 1	5 59	S. 20	☾	0 2	7 56	3 52
24 Wed		Moon near Regulus.	6 2	5 58	0 43	☾	1 3	8 46	5 30
25 Thu		Daybreak 4 18.	6 4	5 56	1 6	☾	2 11	9 32	6 56
26 Fri		☉ brightest. <i>Cloudy</i>	6 5	5 55	1 30	☾	3 14	10 15	7 50
27 Sat		Venus south 1 1.	6 6	5 54	1 53	☾	4 14	10 55	8 28
28 E		☉ eclipsed. <i>and</i>	6 8	5 52	2 17	☾	sets.	11 34	9 1
29 Mon		☉ in apogee.	6 9	5 51	2 40	☾	6 6	ev. 13	9 32
30 Tue		☉ near ♀. <i>rainy.</i>	6 10	5 50	3 3	☾	6 22	0 52	9 58

PROB. 24.—Required the largest cube that can be cut from a cone of six feet base and height.

10. OCTOBER. Begins on Wednesday, has 31 days. 1856.

Moon's Phases.

	D.	H.	M.	
First Quarter,	7	0	42	M.
Full Moon,	13	6	3	E.
Last Quarter,	20	1	11	E.
New Moon,	28	4	59	E.

PROB. 25.—The stakes in the corner of a rail fence stand at an angle of 36° and 60°. A round body (a rail) rests between them, weighing 200 lbs. How much of this rests upon each stake?

PROB. 26.—If a tree is fifty feet high, and six feet around, top and bottom, and a squirrel runs fifty times around it in going up, how far will he travel?

PROB. 27.—A clock whose pendulum is

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	Sun rises. H. M.	Sun sets. H. M.	Sun's dec.N. °	Moon's place.	Moon sets. H. M.	Moon south. H. M.	High water. H. M.
1	Wed	Daybreak 4 25.	6 12	5 48	3 27	♄	6 46	1 34	10 26
2	Thu	1st R. R. U. S. 1833.	6 13	5 47	3 50	♄	7 12	2 17	10 54
3	Fri	♀ so. 1 5. <i>Look out</i>	6 14	5 46	4 13	♍	7 43	3 4	11 21
4	Sat	♀ near ♀. <i>for frosty</i>	6 16	5 44	4 36	♍	8 22	3 55	11 51
5	Sun	20th Sun. aft. Trin.	6 17	5 43	5 0	♍	9 10	4 48	morn.
6	Mon	♄ 90° W. of Sun.	6 18	5 42	5 23	♄	10 8	5 44	0 25
7	Tue	Daybreak 4 32.	6 20	5 40	5 46	♄	11 15	6 41	1 6
8	Wed	♀ so. 11 0. <i>nights.</i>	6 21	5 39	6 9	♍	morn.	7 37	1 59
9	Thu	Pulaski died 1779.	6 22	5 38	6 31	♍	0 29	8 31	3 18
10	Fri	♀ so. 1 11. <i>Rain.</i>	6 24	5 36	6 54	♍	1 44	9 23	4 59
11	Sat	♄ near Neptune.	6 25	5 35	7 17	♍	3 2	10 15	6 26
12	Sun	America dis. 1492.	6 26	5 34	7 39	♍	4 17	11 6	7 22
13	Mon	Daybreak 4 38.	6 28	5 32	8 2	♍	rises.	11 58	8 7
14	Tue	Wellington d. 1852.	6 29	5 31	8 24	♍	5 45	morn.	8 47
15	Wed	♄ near ♄. <i>Fair.</i>	6 30	5 30	8 46	♍	6 20	0 53	9 29
16	Thu	N. Webster b. 1758.	6 32	5 28	9 8	♍	7 1	1 51	10 11
17	Fri	♀ Inf. ♂ ♄. <i>Stormy.</i>	6 33	5 27	9 30	♍	7 52	2 51	10 52
18	Sat	St. Luke. ♄ highest.	6 34	5 26	9 52	♍	8 49	3 53	11 35
19	Sun	Daybreak 4 44.	6 36	5 24	10 14	♍	9 52	4 53	ev. 20
20	Mon	♀ so. 10 8. <i>Windy.</i>	6 37	5 23	10 36	♍	10 58	5 50	1 7
21	Tue	Mercury in ♄.	6 38	5 22	10 58	♍	morn.	6 42	2 8
22	Wed	B. Red Bank 1777.	6 39	5 21	11 18	♍	0 4	7 30	3 34
23	Thu	♄ enters ♄. <i>Smoky</i>	6 41	5 19	11 39	♍	1 6	8 14	5 6
24	Fri	D. Webster d. 1852.	6 42	5 18	12 0	♍	2 8	8 55	6 22
25	Sat	Daybreak 4 50.	6 43	5 17	12 21	♍	3 6	9 34	7 15
26	Sun	23d Sun. aft. Trin.	6 45	5 15	12 41	♍	4 5	10 13	7 55
27	Mon	♄ in apogee. <i>and</i>	6 46	5 14	13 2	♍	5 4	10 52	8 28
28	Tue	♀ south 9 33 $\frac{1}{3}$.	6 47	5 13	13 22	♍	sets.	11 32	8 57
29	Wed	♄ farthest south.	6 48	5 12	13 42	♍	5 16	ev. 15	9 27
30	Thu	♀ sou. 1 32. <i>cloudy.</i>	6 50	5 10	14 1	♍	5 44	1 1	9 56
31	Fri	Moon near Venus.	6 51	5 9	14 21	♍	6 26	1 51	10 25

11. NOVEMBER. Begins on Saturday, has 30 days. 1856.

Moon's Phases.

	D.	H.	M.	
First Quarter,	5	0	27	E.
Full Moon,	12	3	59	M.
Last Quarter,	19	5	38	M.
New Moon,	27	11	5	M.

intended to vibrate seconds, loses 3 minutes per day. How much must it be shortened to keep correct time?

PROB. 28.—How much more weight will a hollow cylinder bear laterally, that is 2 feet in diameter outside, and 1½ feet inside, than another that is of the same length and weight that is not hollow?

PROB. 29.—A rail 3 inches square passes through the corners of a square fence post,

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	☉ Sun rises.	☉ Sun sets.	☉ Sun's dec. S.	☾ Moon's place.	☾ Moon sets.	☾ Moon south.	High water.
			H. M.	H. M.	°		H. M.	H. M.	H. M.
1	Sat	Daybreak 4 57.	6 52	5 8	14 40	☾	7 7	2 44	10 56
2	E	24th Sun. aft. Trin.	6 53	5 7	14 59	☾	8 1	3 39	11 29
3	Mon	☾ so. 9 8. Fair	6 54	5 6	15 18	☾	9 4	4 34	morn.
4	Tue	Ft. Erie taken 1814.	6 55	5 5	15 36	☾	10 14	5 29	0 6
5	Wed	☾ so. 1 38. and	6 57	5 3	15 54	☾	11 26	6 22	0 48
6	Thu	Bat. Lubec. 1806.	6 58	5 2	16 12	☾	morn.	7 13	1 45
7	Fri	Daybreak 5 4.	6 59	5 1	16 30	☾	0 40	8 3	3 2
8	Sat	☉ near ☾. warm.	7 05	0 16	47	☾	1 45	8 52	4 31
9	E	Deluge began 2348 B. C.	7 14	59	17 4	☾	3 8	9 42	5 49
10	Mon	☾ so. 9 39. Rain	7 24	58	17 21	☾	4 23	10 35	6 47
11	Tue	☉ in perigee. with	7 34	57	17 38	☾	rises.	11 31	7 36
12	Wed	Moon ☉ ☾. cold	7 44	56	17 54	☾	4 50	morn.	8 19
13	Thu	Daybreak 5 10.	7 54	55	18 10	☾	5 37	0 31	9 4
14	Fri	☾ 180° E. of Sun.	7 74	53	18 26	☾	6 33	1 34	9 49
15	Sat	☉ highest. nights	7 84	52	18 41	☾	7 36	2 37	10 34
16	E	☾ in Aphelion. and	7 94	51	18 56	☾	8 43	3 37	11 18
17	Mon	☾ so. 8 11. frosty	7 104	50	19 10	☾	9 50	4 33	ev. 6
18	Tue	☾ sou. 1 58. ones.	7 114	49	19 25	☾	10 55	5 24	0 55
19	Wed	Daybreak 5 15.	7 114	49	19 39	☾	11 58	6 10	1 51
20	Thu	Fair and clear.	7 124	48	19 52	☾	morn.	6 53	2 57
21	Fri	Sun enters ☾. Cold	7 134	47	20 5	☾	0 59	7 33	4 14
22	Sat	☾ farthest south.	7 144	46	20 18	☾	1 57	8 12	5 21
23	E	27th Sun. aft. Trin.	7 154	45	20 31	☾	2 55	8 50	6 21
24	Mon	☾ Stat. and disa-	7 164	44	20 43	☾	3 55	9 30	7 10
25	Tue	Daybreak 5 21.	7 174	43	20 54	☾	4 58	10 13	7 47
26	Wed	☉ near ☾. greeable.	7 174	43	21 6	☾	6 1	10 58	8 26
27	Thu	Neptune Stationary.	7 184	42	21 16	☾	sets.	11 47	8 58
28	Fri	☾ in ☉. Cloudy.	7 194	41	21 27	☾	5 3	ev. 39	9 32
29	Sat	Moon lowest.	7 204	40	21 37	☾	5 56	1 34	10 6
30	E	1st. Sun. in Advent.	7 204	40	21 47	☾	6 58	2 30	10 42

12. DECEMBER. Begins on Monday, has 31 days. 1856.

Moon's Phases.

	D.	H.	M.	
First Quarter,	4	10	31	E.
Full Moon,	11	3	18	E.
Last Quarter,	19	1	48	M.
New Moon,	27	3	49	M.

each side of which is 6 inches. The sides of the rail lay in an angel of 45° to the horizon. Required, the edges of the hole, their included angle, and the solid contents of the hole.

PROB. 30.—The intensity of two brilliants A. and B. are as 5 to 3. the distance between them is 6 feet. Required a point that will receive twice as much light from A. as from B.

Day of Mon.	Day of Week.	Phenomena, Chronology, etc.	Sun rises.	Sun sets.	Sun's dec. S.	Moon's place.	Moon sets.	Moon south.	High water.
			H. M.	H. M.	°		H. M.	H. M.	H. M.
1	Mon	Daybreak 5 27.	7 21	4 39	21 56	☾	8 6	3 25	11 19
2	Tue	☾ so. 7 12. <i>High</i>	7 22	4 38	22 5	☾	9 17	4 18	12 0
3	Wed	Fli't James II. 1688.	7 22	4 38	22 13	☾	10 29	5 9	morn.
4	Thu	☾ so. 2 21. <i>winds.</i>	7 23	4 37	22 21	☾	11 41	5 57	0 47
5	Fri	Van Buren b. 1782.	7 23	4 37	22 29	☾	morn.	6 45	1 40
6	Sat	Daybreak 5 33.	7 24	4 36	22 36	☾	0 52	7 33	2 41
7	E	2d Sun. in Advent.	7 24	4 36	22 42	☾	2 4	8 22	3 53
8	Mon	☾ in Aphe. <i>Squalls</i>	7 25	4 35	22 49	☾	3 18	9 15	5 2
9	Tue	☾ so. 6 42. <i>of snow.</i>	7 25	4 35	22 54	☾	4 34	10 11	6 6
10	Wed	Sun 90° W. of Nep.	7 26	4 34	23 0	☾	5 52	11 12	7 3
11	Thu	Moon highest.	7 26	4 34	23 5	☾	rises.	morn.	7 56
12	Fri	Daybreak 5 37.	7 26	4 34	23 9	☾	5 16	0 16	8 47
13	Sat	<i>Cold and clear.</i>	7 27	4 33	23 13	☾	6 22	1 19	9 38
14	E	Washington d. 1799.	7 27	4 33	23 16	☾	7 31	2 18	10 26
15	Mon	☾ so. 2 36. <i>Fair.</i>	7 27	4 33	23 19	☾	8 40	3 13	11 12
16	Tue	Moon near Regulus.	7 27	4 33	23 22	☾	9 45	4 2	11 55
17	Wed	Auro. Borealis dis. 1719.	7 27	4 32	23 24	☾	10 47	4 47	ev. 41
18	Thu	☾ so. 6 12. <i>Cloudy.</i>	7 28	4 32	23 26	☾	11 46	5 29	1 26
19	Fri	Daybreak 5 41.	7 28	4 32	23 27	☾	morn.	6 8	2 11
20	Sat	☾ so. 2 41. <i>and</i>	7 28	4 32	23 27	☾	0 45	6 47	3 3
21	E	Moon in apogee.	7 28	4 32	23 28	☾	1 45	7 27	4 7
22	Mon	Pilgrims land. 1620.	7 28	4 32	23 27	☾	2 46	8 8	5 6
23	Tue	☾ so. 5 54. <i>stormy.</i>	7 28	4 32	23 27	☾	3 49	8 52	6 7
24	Wed	Treaty Ghent 1814.	7 28	4 32	23 25	☾	4 54	9 39	7 6
25	Thu	Christmas. <i>Snow</i>	7 28	4 32	23 24	☾	6 0	10 31	7 51
26	Fri	Daybreak 5 44.	7 27	4 33	23 21	☾	7 3	11 26	8 34
27	Sat	Moon near ☾. <i>or</i>	7 27	4 33	23 19	☾	sets.	ev. 23	9 13
28	E	Sun. aft. Christmas.	7 27	4 33	23 16	☾	5 55	1 19	9 55
29	Mon	☾ south 5 33. <i>rain.</i>	7 27	4 33	23 12	☾	7 8	2 14	10 35
30	Tue	☾ near ☾ and ☿.	7 26	4 34	23 8	☾	8 20	3 6	11 15
31	Wed	Saturn brightest.	7 26	4 34	23 4	☾	9 33	3 36	11 56

HERSCHEL'S WEATHER TABLE.

17

For foretelling the Weather, through all the Lunations of each Year, for ever.

This table and the accompanying remarks are the result of many years' actual observation, the whole being constructed on a due consideration of the attraction of the sun and moon, in their several positions respecting the earth, and will by simple inspection show the observer what kind of weather will most probably follow the entrance of the moon into any of its quarters, and that so near the truth as to be seldom or never found to fail.

If the new moon, the first quarter, the full moon or last quarter happens	IN SUMMER.	IN WINTER.
Between midnight and 2 in the morning.	{ Fair. }	Hard frost, unless the wind is S. or W.
— 2 and 4, morning.	Cold, w'h freq't show'rs.	Snowy and Stormy.
— 4 and 6, "	Rain.	Rain.
— 6 and 8, "	Wind and Rain	Stormy.
— 8 and 10, "	Changeable.	{ Cold rain, if the wind be W., snow if E.
— 10 and 12, "	Frequent showers.	Cold, and high wind.
At 12 o'clock at noon, and 2 P.M.,	{ Very rainy. }	Snow or rain.
Between 2 and 4 P.M.	Changeable.	Fair and mild.
— 4 and 6, "	Fair.	Fair.
8, "	{ Fair, if wind N. W., Rainy, if S. or S. W. }	{ Fair and frosty, if the wind is N. or N. E. Rain or snow, if S. or S. W.
— 8 and 10, "	Ditto.	Ditto.
— 10 and midnight.	Fair.	Fair and frosty.

OBSERVATIONS.—1. The nearer the time of the moon's change, first quarter, full, and last quarter, are to *midnight*, the fairer will the weather be during the seven days following.

2. The space for this calculation occupies from ten at night till two next morning.

3. The nearer to *mid-day*, or *noon*, the phases of the moon happen, the more foul or wet weather may be expected during the next seven days.

4. The space for this calculation occupies from ten in the forenoon to two in the afternoon. These observations refer principally to the summer, though they affect spring and autumn nearly in the same ratio.

5. The moon's change, first quarter, full, and last quarter, happening during six of the afternoon hours, *i. e.* from four to ten, may be followed by fair weather; but this is mostly dependent on the *wind*, as is noted in the table.

6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of autumn, the whole of winter, and the beginning of spring, yet, in the main, the above observations will apply to those periods also.

7. To prognosticate correctly, especially in those cases where the *wind* is concerned, the observer should be within sight of a good *vane*, where the four cardinal points of the heavens are correctly placed.

The above Table was originally formed by Dr. Herschel, and is now published with some alterations, founded on the experience of Dr. Adam Clarke.

WINDS.—The approach of high winds may be anticipated from these general prognostics: When cattle appear frisky, and toss their heads and jump; when geese attempt to fly, or distend and flap their wings; when sheep leap and play, boxing each other; when pigs squeal and carry straw in their mouths; when the cat scratches a tree or post; when pigeons clap their wings smartly behind their backs in flying; when crows mount in the air and perform somersets, making at the same time a garrulous noise; when swallows fly on one side of trees, because the flies take the leeward side for safety against the wind; when magpies collect in small companies, and set up a chattering noise.

SOLUTIONS OF PROBLEMS FOR 1855.

PROBLEM 1.—The spike describes 798 cycloids, each of which is 20 ft. The first or last $\frac{1}{2}$ is = 5 feet. $\therefore 798 \times 20 = 15960$. and $+5 = 15965$ feet. *Ans.*

PROB. 2.—This is worked on the same principle as compound interest, by logarithms. The answer is 2.8113 per cent.

PROB. 3.—The curve described is the involute of a circle. $100 \times 100 + (1 + 16.5) = 165000$ rods, or 515 $\frac{1}{2}$ miles. *Ans.*

PROB. 4.— $\frac{1}{2}(2 - \sqrt{3}) \times 12 = 1.6072952$ inches thick. *Ans.*

PROB. 5.—A transverse section of the ring = 0.012526953 . Distance of the centre of gravity of that section from the centre of the ring = $.39106$. $2 \times .39106 \times 3.1416 \times .012526953 =$ solid area, or $.03084$ inches. *Ans.*

PROB. 6.— $\sqrt[4]{(3d \text{ root of } 48 \times 48 + 3d \text{ root of } 16 \times 16)} \text{ cubed} = 86.436$ inches, or 7.203 feet.

PROB. 7.— $218169 \times$ by the length of the side ($=1$) = 218169 solid feet. *Ans.*

Surface = $\frac{1}{2} \times 20 \times \sqrt{3} = 5\sqrt{3} = 8.66025$ square feet. *Ans.*

PROB. 8.—Sides 52.915 rods, or $20\sqrt{7}$. Area = $700\sqrt{3}$ rods = 7.57772225 acres.

PROB. 9.— $4\frac{1}{2} : \frac{1}{2} :: 2 : 2.9$. 2 feet added make 2 2-9 feet. *Ans.*

PROB. 10.—This belongs to the Calculus. If the ball be discharged at foot of the mountain, it must move 17 times faster than the earth revolves. At 5 miles, it must move 16.7746 times faster, or 4.83908 miles per second. *Ans.*

PROB. 11.—1 lb. and 2 lbs. = 3 lbs. $3 \times 3 = 9$ lbs. $9 \times 3 = 27$ lbs. $27 \times 3 = 81$ lbs. $\therefore$ The weights are 1, 2, 9, 27 and 81 lbs. *Ans.*

PROB. 12.—This is too lengthy for insertion. *Ans.*—53534 42 square miles.

PROB. 13.—Log. amt. = log. principal $+ 10 \times .07 \times .4342944819 = 3.60503608$, or \$4027.50 *Ans.*

PROB. 14.—The cheese will consist of a cylinder, two segments of a sphere, and a body around it like a hoop or finger-ring. 1770.43569 solid inches. *Ans.*

PROB. 15.—The required body lacks the three equal segments of a sphere, of being a globe. Solid area = 17802.4 inches. Superficial = 4084.08 sq. inches.

PROB. 16.—By spherical Trig. the arc or line required = $9^\circ 57' 42'' .648 = 687.8528$ miles *Ans.*

PROB. 17.—The required body will lack four equal segments of a sphere of being a globe. Solid area = 402.0037 feet. Superficial = 237 209 ft.

PROB. 18.—Let $x =$ that part of the globe's diameter above water, then $6x$ squared — x cubed = $32 + 3$. $\therefore x = 1.5478526$, and this from 4 leaves 2.4521474 ft. *Ans.*

PROB. 19.—The horse is to feed outside of the wall, of course. The rope is to reach half-way around, instead of all the way, (a typographical error.) Let $x =$ radius of garden, then x cubed $\times 3.1416$ cubed $+ 6x = 2 \times 160$. $\therefore x = 7.8691$, and diameter = 15.7382 rods. Rope = $7.8691 \times 3.1416 = 24.722$ rods. *Ans.*

PROB. 20.— $5 - 2$ tang. $45^\circ = 2\frac{1}{2}$ tons = pressure upon the tree. Pressure upon the stump (or the thrust) = $\frac{1}{2} \times 5 \times \sqrt{5} = 5.59017$ tons. *Ans.*

PROB. 21.—Radius of largest inscribed globe will = $3\frac{1}{2}$; the area of this is to that of the required globe, as the area of the cone is to that of the required globe, plus a fourth of the cone. Diameter = 5.26974 inches. *Ans.*

PROB. 22.—Work this by Algebra, or by Alligation. *Ans.*, 7, 21 and 72.

PROB. 23.—Velocity = 643 $\frac{1}{2}$ feet per second; height = $1608\frac{1}{2}$ feet; range = 11142.86 feet.

PROB. 24.—This is worked by Arithmetic, but is too long for this place. A. can do it in $13\frac{1}{2}$ days; B. in 14, 14-29 days; C. in 11, 1-19 days, and D. in 70 days. All working together, will do it in 4 days. *Ans.*

PROB. 25.—The present values of \$1 for 13, 11 and 9 years, are 41.4964 cts., 47.5092 cts., and 54.39, 33 cts. The \$16,000 is to be divided in those ratios. $\therefore$ \$46 30-04; \$5300.93, and \$6069.03 are the Answers.

PROB. 26.—Add 4 to both sides, and extract the square root when we have x squared — $3x + 2 = +$ or -3 . $\therefore x = \frac{1}{2}(3 + \text{or} - \sqrt{13})$, or $\frac{1}{2}(3 + \text{or} - \sqrt{-11})$.

QUESTION 1.—Work by cancelling. $(2\frac{1}{2} \times 45 \times 34.6 \times 12.3 \times 39 \times 12.3 \times 6 \times 92) + (22\frac{1}{2} \times 17.3 \times 10\frac{1}{2} \times 2.6 \times 23 \times 8.2 \times 25 \times 8) = \32.40 . *Ans.* Put mixed fractions into improper ones.

ACKNOWLEDGMENTS.—Correct solutions have been received of the Problems for 1855 as follows:—

Mr. George W. Hill, Clarkstown, N. Y., of Problems 1, 2, 3, 5, 8, 9, 12, 13, 15, 16, 17, 18, 22, 23, 24, 25, 26, and Questions 1, 2, 3, 4 and 5.

Mr. D. D. Lathrop, Herrickville, Pa., of Problems 7, 9 and 22.

Mr. H. B. Waterman, Minnesota City, Min. Ter., of Problems 2, 22, 24, 25 and 26.

Mr. C. E. Wood, East Smithfield, Pa., of Problems 7, 9, 10, 15 and 17.

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Mr. S. B. Brands, Paterson, N. J., of Problems 4, 9, 22 and 25.

Mr. David Phillips, Belleville, N. J., of Problems 1, 2, 7, 22, 23 and 25.

NOTE.—For want of room the Solutions are very much shortened, and some are entirely omitted. We invite correspondents to send us solutions always before May 1st. Correspondents are also invited to send us original or well-selected problems, "with their solutions," which, if liked, we will insert next year.

DUNDEE, N. Y., May 11, 1855.

S. H. WRIGHT.

RATES OF POSTAGE, AND POST OFFICE REGULATIONS, 1855.

Letters not weighing over half an ounce, to any part of the United States not exceeding three thousand miles 3 cents; and, for any distance exceeding 3,000 miles, 10 cents. All letters must be pre-paid, or they will not be sent; and, after January 1st, 1856, all letters must be pre-paid, either by Postage-stamps or stamped Envelopes.

Each fractional part of a letter over weight counts a half ounce.

Weekly newspapers (one copy only), sent to actual subscribers within the county where printed and published, go free.

Quarterly Rates of Postage, when paid in advance, on Newspapers and Periodicals sent from the office of publication to actual subscribers.

	Daily.	Six times a week.	Tri-Weekly.	Semi-Weekly.	Weekly.	Semi-Monthly.	Monthly.
	cts.	cts.	cts.	cts.	cts.	cts.	cts.
Newspapers and Periodicals not exceeding 1½ oz. in weight, when circulated in the State where published	22½	19½	9½	6½	3½	1½	¾
Newspapers and Periodicals of the weight of 3 oz. and under, sent to any part of the United States	45½	39	19½	13	6½	3	1½
Over 3 and not over 4 ounces	91	78	39	26	13	6	3
Over 4 and not over 5 ounces	1 36½	1 17	58½	39	19½		4
Over 5 and not over 6 ounces	1 82	1 56	78	52	26	12	6
Over 6 and not over 7 ounces	2 27½	1 95	97½	65	32½	15	7½
Over 7 and not over 8 ounces	2 73	2 34	1 17	78	39	18	9

POSTAGE ON PRINTED MATTER.

Newspapers, periodicals, unsealed circulars, or other article of printed matter, (except books,) when sent to any part of the United States—3 oz. or under, 1c.; 3 to 4, 2c.; 4 to 5, 3c.; 5 to 6, 4c.; 6 to 7, 5c.; 7 to 8, 6c.

Books, bound or unbound, not weighing over 4 lbs., for any distance under 3000 miles, prepaid—1 oz. or under, 1c.; 1 to 2, 2c.; 2 to 3, 3c.; 3 to 4, 4c.; 4 to 5, 5c.; 5 to 6, 6c.; 6 to 7, 7c.; 7 to 8, 8c.

For any distance over 3000 miles, prepaid—1 oz. or under, 2c.; 1 to 2, 4c.; 2 to 3, 6c.; 3 to 4, 8c.; 4 to 5, 10c.; 5 to 6, 12c.; 6 to 7, 14c.; 7 to 8, 16c.

Transient newspapers, periodicals, &c., sent to any part of the United States, not prepaid—3 oz. or under, 2c.; 3 to 4, 4c.; 4 to 5, 6c.; 5 to 6, 8c.; 6 to 7, 10c.; 7 to 8, 12c.

Bills and receipts for payments of moneys for newspapers may be enclosed in subscribers' papers.

Exchanges between newspaper-publishers, for one copy from each office, free.

Newspapers, &c., to be so enclosed that the character can be determined without removing the wrapper; to have nothing written or printed on the paper or wrapper beyond the direction, and to contain no enclosure other than the bills or receipts mentioned.

Be careful to direct all letters and papers sent by mail, plainly, with place, County and State.

OUR COUNTRY—THE EXTENT OF IT.

According to the Census Report, the area of the United States and territories is 2,936,166 square miles. The following table, taken from that document, but transposed so as to give each its proper rank, shows the area of each State and Territory:—

	Square Miles.		Square Miles.
Nebraska Territory	335,882	North Carolina	50,704
Utah Territory	269,170	Mississippi	47,156
Texas	287,504	New York	47,060
New Mexico Territory	207,007	Pennsylvania	46,000
Oregon Territory	185,030	Tennessee	45,600
Minnesota Territory	166,025	Louisiana	41,355
California	155,980	Ohio	39,984
Washington Territory	123,022	Kentucky	37,680
Kansas	114,798	Indiana	33,809
Indian Territory (Kansas)	71,127	Maine	31,766
Missouri	69,380	South Carolina	29,385
Virginia	61,352	Maryland	11,124
Florida	59,268	Vermont	10,212
Georgia	58,000	New Hampshire	9,280
Michigan	56,243	New Jersey	8,520
Illinois	55,405	Massachusetts	7,800
Wisconsin	53,924	Connecticut	4,674
Arkansas	52,198	Delaware	2,120
Iowa	50,914	Rhode Island	1,360
Alabama	50,722	District of Columbia	60

The Nebraska Territory is large enough to cut up into seven States of the size of New York and leave a surplus of territory large enough for a State of the size of Connecticut; Kansas Territory has an area sufficient to make two States of the size of Ohio and one of the size of Indiana; Texas will make four States of the size of Alabama and one of the size of Indiana; and California has a sufficient area to convert into sixteen States of the size of New Hampshire and a surplus to make one about the size of Massachusetts.

UNITED STATES GOVERNMENT.

EXECUTIVE DEPARTMENT.

The 17th Presidential Term, of four years, since the establishment of the Government of the United States under the Constitution, began on the 4th day of March, 1853, and will expire on the 4th day of March, 1857.

	SALARY.
FRANKLIN PIERCE, of New-Hampshire, <i>President</i> ,.....	\$25,000
<i>Vice President</i> ,.....	5,000

THE CABINET.

WILLIAM L. MARCY, of New-York, <i>Secretary of State</i> ,.....	6,000
JAMES GUTHRIE, of Kentucky, <i>Secretary of the Treasury</i> ,.....	6,000
ROBERT MC CLELLAND, of Michigan, <i>Secretary of the Interior</i> ,.....	6,000
JEFFERSON DAVIS, of Mississippi, <i>Secretary of War</i> ,.....	6,000
JAMES C. DOBBIN, of North Carolina, <i>Secretary of the Navy</i> ,.....	6,000
JAMES CAMPBELL, of Pennsylvania, <i>Postmaster-General</i> ,.....	6,000
CALEB CUSHING, of Massachusetts, <i>Attorney-General</i> ,.....	4,000

The Officers of the Cabinet hold their offices at the will of the President, but are appointed with the consent of the Senate.

CONGRESS.

The Congress of the United States consists of a Senate and House of Representatives, and must assemble at least once every year, on the first Monday of December.

The Senate is composed of two members from each State, and there being 31 States, makes the regular number now 62. They are chosen by the Legislatures of the several States, for the term of six years, one-third of them being elected biennially.

The Vice-President of the United States is the President of the Senate, in which body he has only a casting vote, which is given in case of an equal division of the votes of the Senators. In his absence, a President *pro tempore* is chosen by the Senate, as is the case at the present time when the office of Vice-President is vacant.

The House of Representatives is composed of members from the several States, elected by the people for the term of two years.

The compensation of each member of the Senate and House of Representatives is \$8 a day during the period of their attendance in Congress; and \$8 for every twenty miles' travel, in the usual road, in going to and returning from the seat of Government. The President of the Senate *pro tempore*, and the Speaker of the House of Representatives, receive \$16 a day.

THE NAVAL FORCE OF THE UNITED STATES.

According to the Navy Register, the following is the naval force of the United States: Eleven ships of the line, carrying eight hundred and sixty guns. Of these, three are in commission as receiving ships, three in ordinary, four on the stocks, and one preparing for sea. The Independence, a razee, carrying fifty-four guns, is also preparing for sea.

Twelve frigates of the first and one of the second class, carrying five hundred and sixty-four guns. Of these, five are in commission, four in ordinary, two on the stocks, and two preparing for sea.

Twenty-one sloops of war, carrying four hundred and two guns. Of these, fifteen are in commission, one in ordinary, and five preparing for sea.

Four brigs carrying forty guns. Of these, three are in commission, and one preparing for sea. Also, four schooners, carrying seven guns; two of which are in commission, one in ordinary, and one preparing for sea.

Five steam frigates, carrying forty guns, all in commission; four steamers of the first class, carrying eighteen guns, two of which are in commission, one repairing, and one preparing for sea; and seven steamers less than first class, carrying five guns, three of which are in commission, two preparing for sea, and two employed as tenders.

Five store ships carrying twenty-four guns, three of them are in commission, and one preparing for sea.

This gives a total of seventy-five vessels of all kinds, carrying two thousand and four-hundred guns.

OUR LIFE-TIME.

TRANSLATED FROM THE GERMAN.

WHEN the world was created, and all creatures assembled to have their life-time appointed, the ass advanced first, and asked how long he would have to live.

"Thirty years," replied Nature; "will that be agreeable to thee?"

"Alas!" answered the ass, "it is a long while! Remember what a wearisome existence mine will be; from morning until night I shall have to bear heavy burdens, dragging corn-sacks to the mill, that others may eat bread, while I shall have no encouragement, nor be refreshed with anything but blows and kicks. Give me but a portion of that time, I pray thee."

Nature was moved with compassion, and presented him with but eighteen years. The ass went away comforted, and the dog came forward.

"How long dost thou require to live?" asked Nature; "thirty years were too many for the ass, but will you be contented with them?"

"Is it thy will that I should?" replied the dog. "Think how much I shall have to run about; my feet will not last so long a time; and when I shall have lost my voice for barking, and my teeth for biting, what else shall I be fit for but to lie in a corner and growl?"

Nature thought he was right, and gave him twelve years. The ape then approached.

"Thou wilt, doubtless, willingly live the thirty years," said Nature. "Thou wilt not have to labor as the ass and the dog. Life will be pleasant to thee."

"O no!" cried he; "so it may seem to others, but it will not be. Should puddings ever rain down, I shall have no spoon! I shall play merry tricks, and excite laughter by my grimaces, and then be rewarded with a sour apple. How often sorrow lies concealed behind a jest. I shall not be able to endure for thirty years."

Nature was gracious, and he received but ten.

At last came man, healthy and strong, and asked the number of his days.

"Will thirty years content thee?"

"How short a time!" exclaimed man. "When I shall have built my house and kindled a fire on my own hearth,—when the trees I shall have planted are about to bloom and bear fruit,—when life with me will seem most desirable, I shall die! O, Nature, grant me a longer period!"

"Thou shalt have the eighteen years of the ass, besides."

"That is not yet enough," replied man.

"Take, likewise, the twelve years of the dog."

"It is not yet sufficient," reiterated man; "give me more"

"I give thee, then, the ten years of the ape; in vain wilt thou crave more."

"Man departed unsatisfied.

Thus man lives seventy years. The first thirty are his human years, and pass swiftly by. He is then healthy and happy; he labors cheerfully, and rejoices in his existence. The eighteen years of the ass come next, and burden upon burden is heaped upon him; he carries the corn that is to feed others; blows and kicks are the wages of his faithful service. The twelve years of the dog follow, and he loses his teeth, and lies in a corner and growls. When these are gone, the ape's ten years form the conclusion. Then man, weak and silly, becomes the sport of children.

OF THE DAY.

The *Civil Day* begins at midnight, and ends the following midnight.

The *Nautical* or *Sea Day* begins at noon, 12 hours before the civil day, and ends the following noon.

The *Astronomical Day* begins at noon, 12 hours after the civil day and 24 hours after the sea day, and is divided into 24 hours, numbered in numeral succession from 1 to 24 beginning at noon and ending at next noon.

THE INFLUENCE OF WOMEN.—If we wish to know the political and moral condition of a State, we must ask what rank women hold in it. Their influence embraces the whole of life. A wife, a mother—two magical words—comprising the sweetest sources of man's felicity. Theirs is the reign of beauty, of love, of reason. Always a reign! A man takes counsel with his wife; he obeys his mother; he obeys her long after she has ceased to live, and the ideas which he has received from her become principles even stronger than his passions.—*Aime Martin.*

CIVILITY ALWAYS "PAYS."—One would naturally suppose that where there is an article that is pleasant and very agreeable, and costs but little, a great deal of it would be used. "Civility" costs nothing, and yet how little of it is in use! We are reminded of this by the following anecdote:—When old Zachariah Fox, the great merchant of Liverpool, was asked by what means he contrived to realize so large a fortune as he possessed, his reply was, "Friend, by one article alone, and in which thou mayest deal, too, if thou pleasest—it is civility."

A SECRET.—A wag says:—"If you want to increase the size and prominence of your eyes, just keep an account of the money you spend that might be saved, and add it up at the end of the year."

SUCCESS in any business requires a thorough knowledge of the means and material under employ. Place the levers of a locomotive in the hands of one who had never before seen this powerful machine, and instead of being able to drive it with the speed of the wind and the precision of mathematics, he would be sadly puzzled to know what first to do with his important charge. What could a ploughman do if required to superintend a cotton factory? or a blacksmith the machinery of a wholesale merchant? What could a shopkeeper accomplish if placed in charge of a thrashing-machine, a horse-reaper, or a subsoil plough? We should all doubt the sanity of the man who would send for a lawyer to set a fractured limb, although he might point out to the nicety of a hair, the rights, privileges, and liabilities of John Doe and Richard Roe. The idea that men succeed by a sort of lucky guessing, instead of a thorough mastery of facts and principles, is quite too prevalent.

DUTY AND BEAUTY.

Straight is the line of duty,
Curved is the line of beauty;
Walk by the first and thou shalt see
The other ever follow thee.

TIMELY HINTS AS APPLIED TO CHILDREN.

When you consent, consent cordially.
When you refuse, refuse finally.
When you punish, punish good-naturedly.
Commend often;—never scold!

A SINGLE stroke of an axe is of little consequence, yet by the continual application of that small power, properly directed, what amazing effects are produced! The sturdy oak and lofty pine do not simply own its power, but whole forests lie before it, and the wilderness becomes a garden.

REASON loses the race, if it sits in meditation on the fence while competition rushes by.

SOME men so dislike the dust kicked up by the generation to which they belong, that, being unable to pass, they lag behind.

RULES FOR PERSONS ABOUT TO MARRY.

The following code of laws for the regulation of married life are said to have been drawn up by a gentleman for the guidance of his son and the lady to whom his son was about to marry :—

1. When people are making love, everything is so fair and so bright that they are disposed to think each other something more than human, and scarcely liable to the frailties of human nature. Perhaps it would be well if people would divest themselves of this notion ; because, by so doing, it might prevent disappointment after marriage, when contact must necessarily make them acquainted with many frailties which the most perfect human being cannot be without.

2. Want of money is generally looked upon as one of the principal sources of unhappiness in the married state ; but Coleridge, the poet, said :—" If you show me one couple who are unhappy from want of money, I will show you ten who are unhappy from other causes." He alluded to incompatibility of temper, or what is more to the point, a neglect of managing temper and temperament in a proper manner ; for it is certain that if people take the trouble they can make themselves agreeable to each other, so as to live in harmony even under any circumstances.

3. It has been wisely said that those little courtesies and attentions which people pay to each other before marriage in order to gain affection, ought to be continued after marriage in order to retain it. If it is worth gaining it is worth retaining.

4. Husbands and wives sometimes express a great desire to be able to rule their partners. It cannot be questioned that those persons rule with the most absolute sway who are the most beloved. Is it not true that those officers in the army and navy who are most liked by their men, are the most readily obeyed ? The same principle holds good in domestic life.

5. Money is a useful and valuable thing, and ought not to be thoughtlessly spent. Dr. Johnson said that the end and aim of every man's ambition were to erect to himself a comfortable home. There cannot be a prosperous home where there is an extravagant wife. On the other hand, an extravagant husband has power to bring ruin and desolation upon his wife and family, without their having the legal ability to restrain him. A wise economy is a great virtue.

6. A good wife makes a good husband ; and so, also, a good husband makes a good wife.

7. Beware of the first quarrel. An angry word spoken in heat may do incalculable mischief. It may endanger the affection which was established by dint of many acts of attention before marriage, and which is worth more than gold to man and wife.

8. It is not in the nature of things that two people should live constantly together and not offend each other sometimes—not intentionally, perhaps, but inadvertently. Every unintentional offence ought to be easily forgiven ; for where no wrong was intended no great wrong has been inflicted. It would be well, however, if persons studied not to give offence, even unintentionally.

9. Never refuse the offer of reconciliation.

10. Always forgive when forgiveness is asked for.

11. Surely some persons are in error who fall into a state of listless indifference after marriage, and fancy that there is no necessity for further trouble about love and affection, and all that sort of thing. It is said in No. 3, that the affection which was gained before marriage by acts of politeness, and many like attentions, is worth retaining after marriage by a continuance of those attentions. It is certain that love heightens every joy ; and without love no joy can possess its true sweetness. If this be so, it needs no argument to prove how necessary to happiness it is to cultivate love.

12. The mistress is at the head of the domestic department. The servants take their cue from her. If she superintends her household with industry and care, they follow her in performing their duties well ; but if she fails in the virtue of activity, confusion soon enters her house.

13. Take everything well that is well meant. Owing to the weakness of human nature, few people are able to perform great and good deeds. But a good intention shows a good heart.

14. How few there are who can bring themselves to acknowledge an error, even when their own conscience tells them they have committed one! But every right thinking person must know that it is nothing more than an act of common justice to repair an injury where an injury has been inflicted, and such as we should all of us expect from our neighbors. People sometimes imagine that when they confess to another that they have done them a wrong, they are giving that other an advantage over them. This, however, is a great mistake. By so doing, they not only do not allow the other to gain an advantage over them, but they gain an important advantage over their own stubbornness. Any one may be proud of such a victory.

15. "Bear and forbear," is an old saying. It merely means that we should "bear" with the faults and frailties of our partner, and "forbear" to give way to our own. These few words contain much good advice.

16. How sweet is the time of courtship when love goes prosperously! If mutual love makes this period sweet, why should not married life be equally happy? If love is to cease with marriage, people had better remain single. If love is as much cultivated after marriage as before, marriage must necessarily be the happiest condition of life. Courtship is only a preliminary state, which naturally leads on to what may follow. And, however delightful courtship may be, people would not be content to be always courting and never marrying. This would not do. Marriage, therefore, follows as a matter of course. And when love is duly cultivated, surely reality is better than anticipation.

HOW TO OBTAIN HIGH HEALTH.—Walker, in his "Original," lays down the following rules for attaining high health. They are worth remembering:

"First study to acquire a composure of mind and body. Avoid agitation or hurry of one or the other, especially just before and after meals, and whilst the process of digestion is going on. To this end, govern your temper, endeavor to look at the bright side of things, keep down, as much as possible, the unruly passions, discard envy, hatred and malice, and lay your head upon your pillow in charity with all mankind. Let not your wants outrun your means. Whatever difficulties you have to encounter, be not perplexed, but only think what it is right to do in the sight of Him who seeth all things, and bear, without repining, the result. When your meals are solitary, let your thoughts be cheerful; when they are social, which is better, avoid disputes, or serious argument, or unpleasant topics. 'Unquiet meals,' says Shakspeare, 'make ill digestions;' and the contrary is produced by easy conversation, a pleasant project, welcome news, or a lively companion. I advise wives not to entertain their husbands with domestic grievances about children or servants, nor to ask for money, nor produce unpaid bills, nor propound unseasonable questions; and I advise husbands to keep the cares and vexations of the world to themselves, but to be communicative of whatever is comfortable, and cheerful, and amusing."

TEACHING CHILDREN.—Do all in your power to teach your children self-government. If a child is passionate, teach him, by gentle and patient means, to curb his temper. If he is greedy, cultivate liberality in him. If he is selfish, promote generosity. If he is sulky, charm him out of it by encouraging frank good humor. If he is indolent, accustom him to exertion, and train him so as to perform even onerous duties with alacrity. If pride comes in to make his obedience reluctant, subdue him either by counsel or discipline. In short, give your children the habit of overcoming their besetting sins.

SPEED.—The velocity of a ship is from 8 to 12 miles an hour; of a race-horse, from 20 to 30 miles; of a bird, from 50 to 60 miles; of the clouds in a violent hurricane, from 80 to 100 miles; of sound, 823 miles; of a cannon-ball, as found by experiment, from 600 to 1,000 miles, (the common estimate is much too low;) of the earth round the sun, 68 000 miles, (more than a hundred times swifter than a cannon-ball;) of Mercury, 105,000; of light, about 800,000,000 miles, passing from the sun to the earth, 95,000,000 miles, in about eight minutes, or about a million times swifter than a cannon-ball; and the exceeding velocity of the thoughts of the human mind is beyond all possible estimate.

ANECDOTE OF OLDEN TIMES.

More than fifty years ago the Supreme Court of Massachusetts commenced its session early in the autumn at Lennox, Berkshire county; thence the arrangements were to hold sessions in all the counties eastward, terminating at Nantucket and Dukes county, embracing all of Massachusetts proper. This was called "The Fall Circuit." In the succeeding spring the Circuit of the District of Maine was held, thus completing the circuit of the year.

At this early period, the late Judge P——, one of the Court, invariably traveled on horseback. On one occasion, preparatory to the meeting of the court at Lennox, Judge P——, jogging along, not knowing exactly the localities of Berkshire county, fell in with a buxom New England girl, on horseback, and inquired of her if she knew where he should turn off the main road to get to Lennox? "Certainly," said she, "I know every inch of the way, and can guide you." "Well," said Judge P——, who was not a little eccentric, and withal somewhat renowned for his gruffness and coarse manners, "if you are going that way, I will e'en jog on with you, *for poor company is better than none.*" They did jog on, entered into conversation, and had a pleasant time of it, which had the effect to destroy the consciousness of distance. At length the Judge felt that it was time to have arrived at the point where she had said he must turn off, which at the time of his inquiry, she had stated to be about two miles. "Madam," said he, "have we not got near the place I am to turn off?" "La! yes," said she, "*we passed it about a mile and a half back!*" "You hussey," said the Judge, "why didn't you tell me?" "La! sir, the reason I didn't was, that I thought with you, *that poor company was better than none!*"

THERE is a good anecdote going the rounds, and it runneth something thus:—An old farmer had a beautiful daughter named Mary, and she had as many suitors as ever had Penelope of yore. Among them was one named Weller, who gained Mary's heart, but not the old man's. And so the gentle Mary fell sick—love-sick, we suppose, if there is such a malady. Her lover hearing it, posted off instantler to see her. At the door he met the old man, and inquired for Mary's health.

"She's very sick," said he.

"Can't I see her?" said Weller.

"No, no, what can you do for her?" asked the old man. "Can you make her well?"

"Why, yes, I'll make her *Weller*, in less than an hour."

This gained him admittance; and, sure enough, in less than the stipulated time, Mary was Mrs. *Weller*.

"MIND, John, if you go out in the yard, you will wish you had stayed in the house."

"Well, if I stay in the house, I will wish I was out in the yard; so where is the great difference, dad?"

"NEVER go to bed," said a father to his son, "without knowing something you did not know in the morning."

"Yes, sir," replied the youth, "I went to bed slewed last night—didn't dream of such a thing in the morning."

POSING A PEDAGOGUE.—"Sally Jones, have you done that sum I set you?"

"No, thir; I can't do it."

"Can't do it! I'm ashamed of you. Why, at your age I could do any sum that was set me. I hate that word can't! for there is no sum that can't be done, I tell you."

"I think, thur, that I know a thum you can't thifer out."

"Ha! well, well, Sally, let's hear it."

"It ith thith:—If one apple cauthed the ruin of the whole human raith, how many thuch will it take to make a barrel of thider, thir?"

"Miss Sally Jones, you may turn to your parsing lesson."

"Yeth, thir."

COUNTRY SCHOOLS.

"First class in philosophy—step out,—close your books. John Jones, how many kingdoms in nature?"

"Four—the animal, vegetable, mineral and kingdom come."

"Good—go up, head."

"Hobbs—what is meant by the animal kingdom?"

"Lions, tigers, elephants, rhinoceroses, hippopotamuses, aligators, monkeys, jackasses, hack-drivers and schoolmasters."

"Very well—but you'll take a licken for your last remark."

"Giles, what is the mineral kingdom?"

"The hull of Californy."

"Walk straight up head."

"Johnson, what is the vegetable kingdom?"

"Garden sarse, potatoes, carrots, ingyons, and all kinds of greens that's for cooking."

"And what are pines, and hemlocks, and elms? ain't they vegetables?"

"No, sir-ee—you can't cook 'em—them's sawlogs and fram'in' timber."

"Boys, give me a piece of apple, and you can have an hour's intermission—except Hobbs."

"WHY don't you get married?" mischievously asked a young lady of a rather elderly bachelor friend, the other day.

"I have, for the last ten years been trying to find some one who would be silly enough to have me," was the reply.

"I guess you haven't been up our way," was the insinuating and heart-fluttering rejoinder.

"O, DEAR, Mr. Foster, you jest when you say my baby is the handsomest baby you have ever seen; you must be soft-soaping it."

"Well, madam, I thought it needed soap of some kind."

A YOUNG man from the country, going to call on some musical young ladies the other evening, was told that he must ask them to sing, and should they refuse, he ought to press them. Accordingly, he commenced by requesting Miss Mary to favor him with a song. She gently declined, saying she had a cold, &c. "Well, then, Miss," said our hero, "thuppose I thqueese you, don't you think you might sing?" The girl fainted immediately.

"MAIN'T I see you home from meeting, Peggy?" "No, you shan't do no such thing. I am otherwise engaged." "I swanny, I guess you've missed it this time, for I've got my trousers full of gingerbread." "You may take my arm, Jonathan, I only said so."

"OH dear," blubbered out a young Jonathan suffering from the application of the birch; "Oh my, they tell me that forty rods make a furlong, but let them get such a lickin' as I've had, they'll say that one rod makes an acher (acre.)"

"BOX, is that dog of yours pointer?" "No; he is half hunter and half setter. He hunts for bones when he is hungry, and sits by the stove when he is satisfied."

"SAMBO, what is most like a half-moon?" "Don't know, less it bees half a cheese." "No, 'taint dat!" "Well, I gives it straight up." "Yah! yah! darkey; why it bees de odder half, ob course."

WHY are mosquitoes the most religious of all insects? Because they first sing over you, and then prey on you.

WHY is a married man like a candle? Be ause he sometimes goes out at night when he oughtn't to.

THE FARMER.

Of all pursuits by men invented,
The ploughman is the best contented;
His calling's good, his profits high,
And on his labors all rely.
Mechanics all by him are fed,
Of him the merchants seek their bread;
His hand gives meat to every thing,
Up from the beggar to the king.
The milk and honey, corn and wheat,
Are by his labors made complete.
Our clothes from him must first arise,
To deck the fop, to dress the wise;
We then by vote may justly state,
The ploughman's rank among the great.
More independent, too, than all,
That dwell upon this earthly ball.
All hail, ye farmers, young and old!
Push on your plough with courage bold;
Your wealth arises from the clod,
Your independence from your God.
If then the plough supports the nation,
And men of rank in every station,
Let kings to farmers make a bow,
And every man procure a plough.

Am. Far.

TO FARMERS.

The following is copied from that excellent journal, the *New England Farmer*:

Neat be your farms: 'tis long confessed
The neatest farmer is the best.
Each bog and marsh industrious drain,
Nor let vile balks deform the plain,
Nor bushes on your headland grow,
For briers a sloven's culture show.
Neat be your barns, your houses neat,
Your paths be clean, your door-yards neat,
No moss the sheltering roof enshroud,
Nor wooden panes the window cloud;
No sink-drains should above ground flow,
Nor weeds with rankling poison grow;
But flowers expand, and fruit-trees bloom,
And fragrant shrubs exhale perfume.
Neatly inclose your garden round,
Smooth, enrich and clean the ground;
For if to taste and profit you incline,
Beauty and use you always should combine.

"I am monarch of all I survey,
My right there is none to dispute,
From the centre all round to the sea,
I am lord of the fowl and the brute."

INDEPENDENCE OF THE FARMER.

The merchant or manufacturer may be robbed of the reward of his labor, by changes in the foreign or domestic market, entirely beyond his control, and may wind up a year, in which he has done everything which intelligence and industry could do to insure success, not only without profit, but with an actual diminution of capital. The strong arm of mechanic industry may be enfeebled or paralyzed by the prostration of those manufacturing or commercial interests to whose existence it so essentially contributes, and on whom, in turn, it so essentially depends. But what has the industrious farmer to fear? His capital is invested in the solid ground; he draws on a fund which, from time immemorial, has never failed to honor all just demands. His profits may be diminished, indeed, but never wholly suspended; his success depends on no mere earthly guarantee, but on the assurance of that great and beneficent Being, who has declared that, while the earth endureth, seed-time and harvest shall not cease.

VALUE OF TREES.—Mr. Sheldon, of Wilmington, remarked, at a Legislative Agricultural Meeting, that a good tree, set one year, is worth a dollar; it will increase a dollar a year for the next nine years, and, in the next twenty years, it will pay the interest of that ten dollars and the principal also.

TRIMMING TREES.—A practical farmer says, "Large limbs should be cut off in August; this is a better time than June."

HENS, it is well known, when kept shut up, are very apt to eat their eggs. The best preventive is to keep them well supplied with lime and gravel, and with *meat* in some form. The nest should be so deep in the boxes, that they cannot reach them while standing on the edge.—*Farmer.*

SUCCESS OF THE FARMER.

The success of the farmer is in proportion to the amount of knowledge he brings to bear upon his profession, and not on the strong hands or capital employed, nor any other exterior advantage. Like most other undertakings, it depends on the *mind* of the man. The hands are the instruments by which the plough is guided, or a scythe or fork is wielded, and strong ones are necessary for the work; but they are only the instruments of the controlling intellect which plans, devises, arranges and controls the whole. Dolt do not make the best farmers, but the men who think are they who will succeed here just as they will anywhere else.

If this be true, we can see at a glance where improvement in agriculture is to commence. The farmer is required to be a thinking man, and he is the *best* farmer who brings the *best trained intellect* to the work—the soundest logic, the best judgment, and the purest heart. It is true that men acquire considerable skill in most pursuits by mere repetition of their processes; by habit a farmer may go through the yearly routine of sowing a crop, reaping and harvesting the same, just as his father had done, without ever thinking of the reasons which should decide his course. A certain degree of success will often attend such farming, but let any thing new occur to break in upon his habit or routine of things, and our imitator is at his wit's end at the first corner. *Mere instinct* never invented any thing new, but it may repeat old processes skilfully.

The farmer is styled the "Lord of the Soil," and certainly the appellation pertains to him, if he has the ability to appreciate the high station. This ability is the result of knowledge. This knowledge, too, enables him to unite science and art, which is necessary to constitute a good farmer. This union must be derived from book-learning, which, by too many, has been considered wholly superfluous and its teachings distasteful. What other art or science is supposed to be attainable in any considerable degree without reading or study? Why should the farmer alone rely on intuition, on instinct for his improvement, and be directed in his employment by habit? Why should he consider himself nothing more than the *head tool* of his implements and but the main-spring of their movements, while the mechanic and the artisan, by their science, seem to infuse intellect into them.

If knowledge be necessary in any occupation, it is preëminently so in that of the farmer. The mechanic has no call to investigate the elements which are the basis of the material of his handicraft. His stock is before him, and his tool, guided by the unerring hand and practical eye of professional skill, gives form and finish to his work. Not so with the business of the farmer; he may as readily learn its mechanical parts, but he has problems to solve and mysteries to investigate. He should be familiar with the component parts of the substance on which he bestows his labor—their relative proportions, their affinities, their separate and compound agencies, and the influence of other bodies in their adaptation to the results he is laboring to obtain. In short, he must know the necessary and intimate connection between cause and effect.

I have said that the profession of agriculture requires more study than that of the artisan. If this be true, it is fortunate for the farmer that he can command more time for its acquisition. Winter is comparatively, and to him more peculiarly, a season of leisure. Those who do not possess books on this subject, can readily borrow them. But a farmer is the last person who should live by borrowing. Let me recommend a better course. Let an agricultural library be established by an association in the town, consisting of a select number of standard works upon this subject, with the lighter productions and periodicals of the day. General knowledge, independent of mental enjoyment, is important in all occupations—not only as it may direct the hand, but as it calls into exercise other energies conducive to the common good.—H. G. EASTMAN, *Rural New-Yorker*.

ONE acre of land well-manured, well-ploughed, harrowed, and rolled, if well tended afterwards, will produce more than three where these things have been omitted.

HOW TO ENLARGE VEGETABLES.—A vast increase of food may be obtained by managing judiciously, and systematically carrying out for a time the principle of increase. Take, for instance, a pea. Plant it in very rich ground, allow it to bear the first year's say half a dozen pods only; remove all others, save the largest single pea of these. Sow it the next year, and retain of the produce three pods only. Sow the largest the following year, and retain one pod. Again select the largest, and the next year the sort will by this time have trebled its size and weight. Ever afterwards sow the largest seed, and by these means you will get peas, or anything else, of a bulk of which we, at present, have no conception.

FRUIT TREES of all kinds should be pruned as soon as the severe cold weather is over—early in April is a good time—unless the object be to induce fruitfulness by checking a too luxuriant growth, in which case it should be delayed until about the first of July. Pruning them gives a sudden check to the growth of the tree, and, by removing a portion of the leaves, also partially prevents the formation of new roots, thus favoring the formation of fruit buds. The more rapid the growth of the trees, the less tendency there is to the formation of fruit buds, but whatever retards growth and consequently obstructs the circulation of sap favors that object. It is not, of course, desirable to induce fruitfulness until the trees attain a respectable size, and hence young trees should always be trained and cultivated in such a manner as to induce a vigorous growth.

There is always a period of comparative leisure with farmers at the season of the year when roads are bad, and before the time arrives for commencing the "spring's work," which is just the time to attend to the above suggestion.

R. B. W.

A GOOD CUSTOM.—A Spanish peasant, when he eats a good apple, pear, peach, or any other fruit, in a forest, or by the roadside, plants the seed; and, hence it is, that the woods and roadsides of Spain have more fruit in and along them than those of any other country. Cannot we do the same?

"SCIENTIFIC FARMING," is the ascertaining of what substances the plants you wish to raise are made—which of these substances are wanting in your land—and what manures will supply them.

STRENGTH OF HORSES.—By calculations as to the mean strength of animals, it appears that a horse, drawing horizontally, and at the rate of two and a half miles an hour, can work for eight hours in succession against a resistance of 200 pounds. If that pace be quadrupled, he finds an eighth part of the time sufficient. Thus we can pretty nearly measure a horse's power in harness.—*Walker.*

TO FATTEN POULTRY.—Coop up your poultry, and feed them well with corn, or dough of Indian meal and boiled potatoes, for ten days; after this time they will not improve.

SCIENCE IN THE KITCHEN.—Professor Liebig, in a letter to Professor Silliman, says :—The method of roasting is obviously the best to make flesh the most nutritious. But it does not follow that boiling is to be interdicted. If a piece of meat be put into cold water, and this heated to boiling, and boiled until it is “done,” it will become harder, and have less taste, than if thrown into water already boiling. In the first case, the matters grateful to the smell and taste go into the extract—the soup; in the second, the albumen of the meat coagulates from the surface inward, and envelopes the interior with a layer which is impregnable to water.

DIRECTIONS FOR BOILING.—For all sorts of boiled meats, allow a quarter of an hour to every pound; be sure that the pot is very clean, and skim it well, for every thing will have a scum rise; and if it boils down, it makes the meat black. All sorts of fresh meat are to be put in when the water boils, but salt meat when the water is cold.

FOR ROASTING, the cook must order a fire according to what she is to dress. If any thing little or thin, then a brisk little fire, that it may be done quick and nice. If a very large joint, be sure that a good fire is laid to cake: let it be clear at the bottom, and when the meat is half done, move the dripping-pan and spit a little from the fire, and stir it up. The spit ought to be kept very clean, and ought to be rubbed with nothing but sand and water. Wipe it with a dry cloth. Oil, brick-dust, &c., will spoil the meat.

TO MAKE MUTTON-SUET CANDLES, IN IMITATION OF WAX.—1. Throw quick-lime in melted mutton-suet; the lime will fall to the bottom, and carry along with it all the dirt of the suet, so as to leave it as pure and as fine as wax itself.

2. Now, if to one part of the suet you mix three of real wax, you will have a very fine, and to appearance, a real wax candle; at least the mixture could never be discovered, nor even in the moulding way of ornaments.

INDIAN SLAP JACKS.—Scald a quart of Indian meal—when luke-warm, stir in half a pint of flour, half a tea-cup of yeast and a little salt. When light, fry them in just fat enough to prevent their sticking to the frying-pan. Another method of making them, which is very nice, is to turn boiling milk or water on the Indian meal, in the proportion of a quart of the former to a pint of the latter—stir in three table-spoonsful of flour, three eggs well beaten, and a couple of tea-spoonsful of salt.—*American Housewife*.

TO HAVE GOOD HEALTH.—Keep thy feet dry—thy skin clean—thy digestion regular—thy head cool—and a fig for the doctors.

A DROP OF OIL.—Every man who lives in a house, especially if the house be his own, should oil the various parts of it once in two or three months. The house will last much longer and will be much more quiet to live in. Oil the locks, bolts and hinges of the street door, and it will shut gently with luxurious ease, and with the use of a small amount of force. A neglected lock requires great violence to cause it to shut, and with so much violence that the whole house, its doors, its windows, its very floors and joists are much shaken, and in time they get out of repair in all sorts of ways, to say nothing of the dust that is raised.

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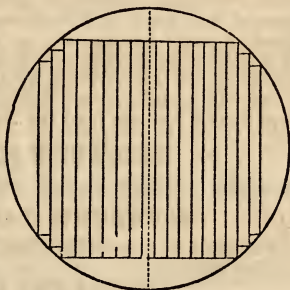
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NEW YORK, Sept, 1st, 1854.

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